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**THE MODERATING EFFECTS OF BOARD EQUITY
OWNERSHIP ON THE RELATIONSHIP BETWEEN
ENTERPRISE RISK MANAGEMENT (ERM) PRACTICES
AND THE PERFORMANCE OF FINANCIAL INSTITUTIONS
IN NIGERIA**

AHMED, IDRIS



UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
FEBRUARY 2017**

TITLE PAGE

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IN NIGERIA**

By



AHMED, IDRIS

UUM
Universiti Utara Malaysia

**Thesis submitted to
School of Economics, Finance and Banking, College of Business,
Universiti Utara Malaysia, in Fulfillment of the Requirement for
the Degree of Doctor of Philosophy**



Kolej Perniagaan
(College of Business)
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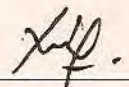
: The Moderating Effects of Board Equity Ownership on the
Relationship between Enterprise Risk Management (ERM) Practices
and the Performance of Financial Institutions in Nigeria

Program Pengajian
(Programme of Study)

: Doctor of Philosophy

Nama Penyelia/Penyelia-penyelia
(Name of Supervisor/Supervisors)

: Assoc. Prof. Dr. Norlida Abdul Manab


Tandatangan

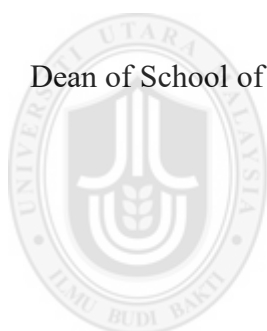


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ABSTRACT

Corporate failure around the world has triggered scholars and professionals to re-examine the link between risk management practices and performance of organizations. The prime objective of this study is to examine the impact of enterprise risk management (ERM) framework implementation and ERM success factors include compliance (COP), risk management culture (RMC), risk management information (RMI), risk knowledge sharing (RKS), staff competence (SC), organisational innovativeness (OIN) and leadership factor (LF) on the performance of financial institutions in Nigeria. The study also aims to determine the moderating effect of board equity ownership (BEO) on the relationship between risk management framework (RMF) implementation, ERM success factors, and performance of financial institutions. Survey data on 163 randomly selected firms from five subsectors of financial institutions were collected. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to test hypotheses. The findings of the study reveal that RMF, COP, RMC, RMI, RKS, SC, and LF have positive and significant effects on the performance of financial institutions. Contrary to expectation, OIN negatively influences the firm performance. Furthermore, BEO moderates positively the relationship between RMF, COP, RMI, RKS, and firm performance. However, BEO does not have significant moderating effects on RC, SC, OIN, and LF. The results of this study offer valuable insight to financial institutions, regulators, and researchers to further understand the effects of ERM practices on firm performance. The study recommends that firms and regulatory agencies should promote sound risk culture with a view to increase risk awareness, establish a robust information management system for comprehensive risk analysis and reporting, devise internal risk knowledge sharing strategies to boost staff capabilities and entrench effective leadership role to handle complex firms' operational activities.

Keywords: enterprise risk management, success factors, board equity ownership, Nigerian financial sector, firm performance

ABSTRAK

Kegagalan pihak korporat di seluruh dunia telah mencetuskan minat ahli akademik dan golongan profesional untuk mengkaji semula hubungan antara amalan pengurusan risiko dengan prestasi organisasi. Objektif utama kajian ini adalah untuk meneliti impak pelaksanaan rangka kerja pengurusan risiko enterprise (ERM) dan faktor kejayaan ERM, termasuklah pematuhan (COP), budaya pengurusan risiko (RMC), maklumat pengurusan risiko (RMI), perkongsian pengetahuan risiko (RKS), kecekapan kakitangan (SC), inovasi organisasi (OIN) dan faktor kepimpinan (LF) terhadap prestasi institusi kewangan di Nigeria. Kajian ini juga bermatlamat untuk menentukan kesan penyederhana pemilikan ekuiti lembaga pengarah (BEO) terhadap hubungan antara pelaksanaan rangka kerja pengurusan risiko (RMF), faktor kejayaan ERM, dengan prestasi institusi kewangan. Data kajian dikutip daripada 163 syarikat yang dipilih secara rawak di lima subsektor institusi kewangan. Pendekatan kuasa dua terkecil separa untuk permodelan persamaan berstruktur (PLS-SEM) telah digunakan untuk menguji hipotesis. Dapatan kajian memperlihatkan bahawa RMF, COP, RMC, RMI, RKS, SC, dan LF mempunyai kesan yang positif dan signifikan terhadap prestasi institusi kewangan. Sebaliknya, OIN mempengaruhi prestasi firma secara negatif. Selain itu, BEO menyederhana hubungan secara positif antara RMF, COP, RMI, dan RKS dengan prestasi firma. Walau bagaimanapun, BEO tidak mempunyai kesan penyederhana yang signifikan terhadap SC, OIG, dan LF. Dapatan kajian memberikan maklumat yang bernilai kepada institusi kewangan, para pengawal selia, dan penyelidik untuk terus memahami kesan amalan ERM terhadap prestasi firma. Kajian ini mencadangkan agar firma dan agensi kawal selia menggalakkan budaya risiko yang teguh untuk meningkatkan kesedaran tentang risiko, mewujudkan satu sistem pengurusan maklumat yang mantap untuk menghasilkan analisis dan laporan risiko yang menyeluruh, merangka strategi perkongsian pengetahuan risiko dalaman bagi meningkatkan keupayaan kakitangan, dan mengukuhkan peranan kepimpinan yang berkesan untuk mengendalikan operasi firma yang kompleks.

Kata kunci: pengurusan risiko enterprise, faktor kejayaan, pemilikan ekuiti lembaga pengarah, sektor kewangan Nigeria, prestasi firma

ACKNOWLEDGEMENT

I start by expressing my profound appreciation to Almighty Allah, Most Compassionate and Most Merciful who in His infinite mercy and guidance make this academic journey a reality. Peace and blessings of Allah (SWT) be upon our beloved prophet Muhammad (SAW).

First and foremost, I am highly indebted to my supervisor, Assoc. Prof Dr. Norlida Abdul Manab for her immense contributions at every step of this research work. Your erudition leaves an indelible mark in the process of my educational endeavor. I pray for Almighty Allah to reward you abundantly. Also, I remain grateful to Dr. Arpah Abu Bakar (internal examiner), Assoc. Prof Dr. Rohani Md. Rus, and Prof. Dr. Mohd Rasid Hussin for their immense contributions. I am indeed grateful to my external examiner Prof. Dr. Ahmad Shukri Yazid for his thorough review and contributions.

I also remain indebted to my parents Alhaji Ahmed Aliyu and Hajiya Adama Usman for their unquantifiable contributions towards my educational achievements. May Almighty Allah reward you abundantly and may you live long to enjoy the fruit of your efforts. I also remain indebted to my beloved wife Hajiya Nafisa Aminu Yusuf, who in spite of her studies, kept the home lively. Special regard to my children Ashraf Idris Ahmed, Intisar Idris Ahmed and Maryam Idris Ahmed for their unquantifiable support throughout our stay in Malaysia. A similar appreciation goes to my brothers and sisters Abdullahi Ahmed, Aisha Ahmed, Mustapha Ahmed, Aminu Ahmed, Yahya Ahmed, Usman Ahmed, Zainab Ahmed, Aliyu Ahmed and Sadiq Ahmed for their kind support and prayers. Additionally, let me register my sincere appreciation to the Department of Business Administration, ABU and NAICOM for given me the opportunity to pursue this study.

I am most grateful to Prof Bello Sabo and Dr. Talmizu Usman, for their immense contributions. I remain grateful to the Nigerian financial institutions for responding to my questionnaires. In particular, I am grateful to Mr. P. Hamman, the CEO of FIN

Insurance for his support and facilitation. Finally, special regard goes to my friends Dr. Nuruddeen Aliyu, Dr. Nasiru Abdullahi, Dr. Murtala Aminu Ibrahim, Dr. Yusuf Ibrahim Karaye, Dr. Musa Suleiman, Dr. Sirajo Aliyu, Dr. Abubakar I. Hassan, Dr. Sani Adamu, Dr. Idris Adamu, Aliyu Usman, Misbahu Abdulmumin, Yakubu Mohammed, Shuaibu Ubangida, AbdulAzeez Hamza and many others too numerous to mention. I pray for Almighty Allah to reward them abundantly. Ameen.



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LIST OF ABBREVIATIONS

AT	Agency Theory
AVE	Average Variance Extracted
BSC	Balance Score Card
CAS	Casualty Actuarial society
CBN	Central Bank of Nigeria
CFO	Chief Financial Officer
CG	Corporate Governance
CMV	Common Method Variance
COSO	Committee of Sponsoring Organisation of Treadway Commission
CRO	Chief Risk Officer
ERM	Enterprise Risk Management
F ²	Effect Size
FFP	Financial Firm Performance
FSB	Financial Stability Board
IMF	International Monetary Fund
ISO	International Standard Organisation
KPMG	One of the Big Four Auditing Firm
LR	Leadership Role
MPT	Modern Portfolio Theory
NAICOM	National Insurance Commission
NBS	National Bureau of Statistics
NDIC	Nigerian Deposit Insurance Corporation
NFP	Non-financial Firm Performance
P _c	Composite Reliability
PENCOM	Pension Commission
PLS	Partial Least Squares
Q ²	Predictive Relevance
R ²	R-squared values
RBV	Resource Based View
RMC	Risk Management Culture
RMF	Risk Management Framework

RMI	Risk Management Information
RO	Risk Officer
SEC	Security and Exchange Commission
SEM	Structural Equation Modelling
SPSS	Statistical Package for the Social Sciences
TLM	Top Level Manager
TRM	Traditional Risk Management
VIF	Variance Inflation Factor



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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Corporate failure has triggered scholars and professionals to re-examine the link between risk management initiatives and the performance of business organizations. The collapse of Enron, WorldCom, and Lehman Brothers among others were among the worst corporate scandals of the 21st century (Alsop, 2004; Young & Perez, 2002). Given the complexities surrounding corporate organisations, the strength to manage risk exposures has become essential to the survival of firms (Boniface & Ibe, 2012). In fact, business firms continued to face sharp instability from the effect of globalization, deregulations, and other challenges (Shecterle, 2010). Thus, the inability of firms to be proactive in risk assessment, mitigation and control had resulted in poor firm performance. In essence, a change in the customer expectations, engagement imperatives, performance assessments, risk management skills and competencies required to effectively improve business performance have become necessary. These challenges have brought the issue of risk management to the limelight (Awoyemi, 2010; Rostami, Sommerville, Wong, & Lee, 2015).

Similarly, the Asian financial crisis of 1997 and the recent global financial crisis of 2008 have further emphasized the importance of risk management strategies for firms' survival. The global economic meltdown is an indicator that regulatory agencies need to increase their monitoring and surveillance capabilities to ensure a sound global financial systems (Nicolas, 2012). Financial institutions are among the most significant economic drivers that improve the welfare of individuals by supporting the ability of households and business entities to hold and transfer

financial assets (CBN, 2010). Despite, the role of this important sector, financial institutions around the world have witnessed monumental challenges in carrying out effective and efficient intermediation (Oladapo & Richard, 2012). For example, the market capitalisation of the global equity markets dropped from US\$1 trillion dollars to US\$21 trillion dollars, a decrease of 56 percent in 2009 (Onour, 2009). These developments have negatively affected the performance of firms globally.

Prior to the 2008/2009 financial crisis, the Nigerian financial industry had experienced a monumental growth due to a series of reforms (SEC, 2012). The market capitalization of the financial institutions increased from \$22.73 billion in 2005 to \$110 billion in 2008 (National Bureau of Statistics, 2013). Lamentably, risk management mechanisms did not progress commensurately to sustain the quick market growth (SEC, 2012). The banking and insurance companies were the most affected by the crisis because they accounted for 18 out of the top 20 firms by turnover volume being the most capitalised subsector. From 2008 to 2009, the Nigerian stock market experienced a loss of about 70 percent of its value (IMF, 2013). Subsequently, from 2009 to 2012, the market capitalization of the financial institutions continued to experience an annual decline of about 17.42 percent (SEC, 2012). The NSE Banking Index and the NSE Insurance index dropped by 32% and 61% in 2010 respectively (Okereke-onyiuke, 2010). Studies have cited risk management inefficiencies as the primary causes of poor firms' performance in Nigerian financial sector (IMF, 2013; SEC, 2012).

As a response to global failure, various government agencies had developed rules and regulations that were meant to guide firms' operational activities. The United

State of America introduced Sarbanes-Oxley Act (SOX 2002) to control and protect further corporate fraud in the country (Lai & Azizan, 2012). The Sarbanes-Oxley Act requires a top-down risk approach that includes identification, prioritising and assessment of material risks for better business performance (Daud, Yazid, & Hussin, 2010). These regulations have prompted business firms to be relentless in identifying efficient strategies that will improve their performance and survival.

In Nigeria, the financial environment is surrounded by poor risk management practices, economic distress, solvency crises and operational infractions among others (Sanusi, 2010b). Some of the financial institutions were involved in sharp business practices that fleece shareholders investments (Kuye, Ogundele, & Otikey-Obaro, 2013; Sanusi, 2010b). Also, the introduction of various economic reforms in the country has led to the explosion of several corporate governance codes. The security and exchange commission (SEC) have developed corporate governance guide for all listed firms in Nigeria. The Central Bank of Nigeria (CBN) established its corporate governance provisions for the banking and other financial institutions. Similarly, the National Insurance Commission (NAICOM) has introduced a separate corporate governance code for insurance companies in Nigeria. These corporate governance conventions set the regulatory capital base that could control the risks facing the financial sector and stipulate how effective monitoring will improve firm performance.

However, the recent global events have made the business environment highly unpredictable rendering traditional risk management approaches inefficient to manage risk exposures. Traditional Risk Management (TRM) does not consider the

interconnectedness of several risks types (Ghazali & Manab, 2013). In fact, scholars have argued that TRM is a *silo-based*” risk management approach that does not give firms the opportunity to view risk exposures across the entire business enterprise (Moeller, 2011). The ineffectiveness associated with this traditional conception of risk has served as a catalyst to the evolution of Enterprise Risk Management (ERM) as an alternative risk management mechanism. It is an approach that gives firms the opportunity to have a clear view of the interactions of different classes of risks (PricewaterhouseCoopers [PWC], 2008). According to Meier (2000), efficient management of risk can lead to market leadership and high business growth. Hence, for any business to achieve better performance, sound risk management is inevitable (Doherty, 2000).

ERM refers to a risk management strategy that takes into account the interrelations between different types of risks; in contrast to traditional risk management (insurance buying, physical mitigation, liability reduction). Enterprise risk management concurrently considers all forms of risks and develops mechanisms to ensure holistic management of risks and uncertainties. Enterprise risk management is a process that enables business organisations to assess, control, exploit, finance and monitor exposures from all sources in order to improve firm performance (Casualty Actuarial Society [CAS], 2003).

The Committee of Sponsoring Organisations of the Treadway Commission [COSO] (2004) have described ERM as an initiative designed to promote the understanding of diverse sources of risks. It also enables organisations to improve their strategic and operational decision-making capabilities. Strategically, ERM is expected to

increase firm performance, reduce the likelihood of potentially costly surprises and contribute to the development of positive organizational risk culture (Queensland, 2011). It is the accumulative effect of these decisions that will increase firm performance (Beasley, Pagach, & Warr, 2008).

However, empirical findings have been inconsistent concerning the anticipated benefits of ERM to firm's performance (Abdullah *et al.*, 2012; Ballantyne, 2013; Mikes & Kaplan, 2014). To resolve some of the inconsistencies in the literature, some studies have suggested the introduction of certain organisational variables (Gordon, Loeb, & Tseng, 2009; Hafizuddin-Syah, Abdul-Hamid, Janor, & Yatim, 2014). The CBN (2006) corporate governance report identified managerial ownership as a possible incentive that may lead to interest alignment between the management of a firm and its owners (shareholders). Since ERM implementation is a board decision, the study argued that alignment of interest between board members and the owners may likely strengthen risk management decisions which may eventually improve firm performance. Baron and Kenny (1986) contended that a moderating variable can be introduced where the relationship between a predictor variable and a criterion variable is either unexpectedly weak or inconsistent. Hence, in line with this criteria (Baron & Kenny, 1986), board equity ownership was introduced as a moderating variable with the possibility of strengthening the relationship between ERM practices and firm performance.

Notably, the concern of the board of directors is to ensure that an effective risk management process is in place. It is, therefore, likely that in line with several studies (Bhagat & Bolton, 2008; Carol Liu, Tiras, & Zhuang, 2014; Hillman &

Dalziel, 2003; Lim & Mccann, 2013), board equity ownership may lead to the alignment of interest between board members and shareholders. Hence, this alignment of interest may improve the board monitoring capacity with a view to improving firm performance (Ren, Chandrasekar, & Li, 2012). Thus, the success of ERM implementation is expected to be supported by board equity ownership. Hence, board equity ownership may improve the monitoring ability of the board, which will lead to effective risk management implementation (Bouwens & Verriest, 2014). Thus, it is against this background that this study will attempt to examine the impact of ERM practices on the performance of firms in the Nigerian financial industry.

1.2 Problem Statement

The uncertainties surrounding firms have attracted the attention of business leaders to search for risk management strategies that can improve firm performance. The following are some of the practical problems that motivate the study.

Firstly, the speed of globalization and the opportunities offered by emerging markets had forced national and multinational organizations to redesign their business strategies and risk management initiatives (Zurich, 2011). Despite several efforts and legislations, significant instability persists thereby obscuring the ability of organisations to manage risk efficiently and sustain a comfortable level of control (KPMG, 2013; Zurich, 2011). The urge to identify the best risk management strategies that business can rely upon to carry out business operations efficiently have attracted the attention of several firms. The global economy has remained fragile and susceptible to all sources of risks; because of intensive competition and rapid technological advancement (Manab, 2009; Manab, Kassim, & Hussin, 2010).

These challenges are growing faster than most organizations can imagine; thereby distorting the value-creating capacity of firms (KPMG, 2011). One of the largest disasters that affected US financial industry in recent times was the fall of the Lehman Brothers (Kwaku & Mawutor, 2014). Lehman Brothers was a leading US firm with a net worth of about US600 billion dollars (Bris, 2010). Poor compliance and weak risk management practices had led to a total loss of about \$3.9 billion dollars (Kwaku & Mawutor, 2014). Financial experts have attributed these problems to the inability of firms to anticipate adverse economic events and take appropriate decisions led to the significant drop in financial institutions performance (Wolf, 2008).

In the case of Nigeria, the total market capitalisation of large number of financial institutions in the country plummeted by about 38.6 percent within the period of the crisis (Amedu, 2010). The injection of liquidity and capital support of ₦620 billion (US\$4.1 billion) in the form of unsecured, unsubordinated debt in the financial sector by the central bank of Nigeria (CBN), alluded to the poor risk management practices of financial institutions in Nigeria (IMF, 2013).

Secondly, weak risk management and poor compliance with regulatory provisions are part of the issues that seriously weaken the effectiveness of business firms. In fact, lack of compliance with both internal and external regulatory provisions in several economies have become a threat to the global financial systems (Oghojafora, Olayemia, Okonjia, & Okolieb, 2010). A global survey conducted by KPMG International in 2011 revealed significant gaps and weaknesses in risk management practices and compliance in the financial institutions of several countries (KPMG,

2011). In Nigeria, the regulators (CBN, NDIC, NAICOM, and PENCOT) still lack the capacity to monitor effectively the level of compliance and also the enforcement mechanisms are weak (Ibuakah, 2012). In fact, financial institutions have remained fragile and ill-performing (Sanusi, 2010b). The systemic laxity has prevented some institutions to be proactive in identifying factors that are likely to undermine business operations. In fact, numerous reports have cited weak risk management strategies, poor compliance, and poor risk culture as among the leading causes of inefficiencies and corporate failure in Nigeria (CBN, 2010, 2012). Asher and Wilcox (2015) reported that cultural weaknesses lead to the failure of financial institutions in both developed and developing economies. The Nigerian pension fund investments recorded an unrealized loss of about N33.02 billion (USD \$0.2 billion), representing seven per cent of the accumulated retirement savings of employees due to poor risk culture and inappropriate use of risk management initiative (PENCOT, 2015; Proshare, 2008).

Thirdly, another problem that undermines risk management practices in the Nigerian financial industry is the issue of skills gap and inadequate knowledge management strategies (Fadun, 2013b). There is an in-depth lack of competence on the operations of the financial industry which continued to undermine financial institutions' performance in Nigeria (CBN, 2012). Abdullah *et al.* (2012) contended that ERM practice is sparse due to lack of risk management knowledge. Similarly, the report of the joint task force of Financial Stability Board (FSB), the International Monetary Fund (IMF) and the World Bank indicated that developing economies lack the ability to assess the effectiveness of financial institutions' risk management practices (Financial Stability Board, 2011). In an effort to boost risk management practices,

the head, NAICOM strategic department suggested the need for companies to put in mechanisms that would raise risk management awareness among employees (Daily Independent Nigeria, 2014). Therefore, this study is intended to investigate the impact of ERM practices on the performance of financial institutions in Nigeria.

Several studies have investigated the influence of ERM practices on firm performance (Doherty, 2000; Hoyt, Moore, & Liebenberg, 2008; Manab & Ghazali, 2013; Manab *et al.*, 2010; Meier, 2000; Mikes & Kaplan, 2014). From the theoretical perspectives, the relationship between ERM practices and firm performance have been mixed and inconclusive (Abdullah *et al.*, 2012; Bertinetti, Cavezzali, & Gardenal, 2013; Togok, Ruhana, & Zainuddin, 2014). While some studies have indicated a positive relationship between ERM practices and firm performance (Baxter, Bedard, Hoitash, & Yezegel, 2013; Bertinetti *et al.*, 2013; Gates, Nicolas, & Walker, 2012); others have failed to support the value relevance of ERM (Ballantyne, 2013; Hafizuddin-Syah *et al.*, 2014; Pagach & Warr, 2010). In spite of the reported benefits of ERM implementation, the extent to which ERM adds value to organisations is yet to be resolved. In fact, there is relatively little empirical work validating these hypothesized benefits (Mikes & Kaplan, 2014). There seem to be no agreement concerning the hypothesized benefits of ERM framework implementation (Beasley *et al.*, 2008; Togok *et al.*, 2014). Hence, the relevant review of the extant literature highlights some gaps that this study intends to fill.

Acharyya, (2008) contended that the empirical contribution of ERM has remained untested because of the use of unsuitable proxies for ERM frameworks implementation. In support of this position, studies have further stated that the

inconsistencies in the connection between ERM framework implementation and firm performance was due to the inadequate specification of ERM frameworks, as most studies rely on simplistic variables (such as dummy) to represent complex behaviour (Lundqvist, 2014; Mikes & Kaplan, 2014). In fact, only a few empirical studies have been conducted on ERM value relevance and most of the studies used appointment of chief risk officer (CRO) (Hoyt & Liebenberg, 2011); corporate governance code (Manab & Ghazali, 2013) and risk management committee (Hutchison & Ngoc, 2013; Nickmanesh *et al.*, 2013) to gauge the effect of ERM implementation on organisations. Hence, most studies have failed to link ERM with parsimonious variables that could better measure the entire operational effectiveness of ERM on firm performance (Altuntas, Berry-Stolzle, & Hoyt, 2011). Again, relying on proxies that are not likely to capture the strategic, operational and ethical issues that surround the implementation of ERM in organisations may lead to mix results (Bhimani, 2009). Thus, this study used an embedded survey approach to examine the ERM framework implementation and its effect on firm performance.

Similarly, large number of studies have examined some success factors that influence firm performance. To date, some of the risk management success factors that have been studied include business reputations, remuneration, trust (Carey, 2001); top management support, communication, technology (Grabowski & Roberts, 1999); organisational culture, leadership factors (Manab & Kassim, 2012; Ranong & Phuengnam, 2009; Yaraghi & Langhe, 2011); cross-functional staff, risk management base (Manab, Othman, & Kassim, 2012) among others. However, to the best of the researchers knowledge, few studies investigated the influence of the risk management information system, risk knowledge sharing, staff competence, and

innovativeness, on firm performance. These variables are directly linked to the practical problems raised earlier in this study.

Contextually, most of the available literature in ERM have focused on developed economies with few studies in Asia and Latin America (Fadun, 2013a; Togok *et al.*, 2014). Therefore, there is a paucity of research on ERM practices in Africa particularly, in Nigeria. Further, the few studies in Nigeria are primarily conceptual studies that explained the theoretical benefits of ERM practices (Fadun, 2013a). Studies have reported that ERM remains a fertile subject for research because of the paucity of studies and inconsistencies in findings (Mikes & Kaplan, 2014; Togok *et al.*, 2014). The differences in corporate cultures, as well as the timing of the adoption, may require researchers to examine the context under which firms implement ERM initiatives (Fraser, Schoening-Thiessen, & Simkins, 2008). Fraser *et al.* (2008) contended that further research efforts are needed in the field of ERM to enable risk managers to learn from the experiences of organisations and countries that have effectively implemented ERM.

Furthermore, large number of ERM studies have examined firm performance using financial performance indicators only (Bertinetti *et al.*, 2013; Nickmanesh *et al.*, 2013; Pagach & Warr, 2010); while ignoring the non-financial aspects of performance. However, for a better understanding of how ERM practices affect firm performance, it requires the measuring of both financial and non-financial aspect of the firm. In this connection, Blaskovich and Taylor (2011) argued that too much reliance on accounting historical measures may obscure the relationship between ERM implementation and firm performance. Papalexandris, Ioannou, Prastacos, and

Soderquish, (2005) argued that assessing firm performance, using historical accounting measures alone may not express the performance of firms. Thus, the study intends to use both financial and non-financial performance measures to assess the value relevance of ERM.

Finally, due to inconsistencies in the literature, scholars such as Gordon *et al.*(2009) and Hafizuddin-Syah *et al.* (2014) proposed the incorporation of moderators to strengthen the relationship between ERM implementation and organizational performance. In the context of Nigeria, the CBN report indicated that individuals who form part of the management of institutions and possess some form of equity may be compelled to identify strategies that are likely to improve firm performance (CBN, 2006). Extending this argument to board equity ownership, the researcher asserted that since ERM is a board decision, it is logical to argue that board members who own equity of a firm may serve as an incentive to interest alignment with the shareholders, thereby ensuring effective monitoring and implementation of sound business strategies (such as ERM). Hence, following the argument provided by Baron and Kenny (1986), board equity ownership was introduced as a moderating variable with the possibility of strengthening the relationship between ERM framework implementation, ERM success factors and firm performance. In view of the above highlighted problems, the study formulates the following objectives:

1.3 Research Objectives:

The primary aim of this study is to investigate the extent to which ERM practices affect firm's performance in the Nigerian financial industry. The study is aimed at achieving the following specific objectives:

1. To examine the extent of ERM practices in the Nigerian Financial Industry.
2. To examine the influence of ERM framework implementation on firm performance.
3. To determine the effects of ERM success factors on firm performance.
4. To examine the moderating effect of board equity ownership on the relationship between the ERM frameworks, ERM success factors and firm performance.
5. To understand ERM practices in the Nigerian financial industry.

1.4 Research Questions

To put the study in proper perspective, the researcher has raised the following questions:

1. What is the extent of ERM practices in the Nigerian Financial Industry?
2. Does implementation of ERM framework increase firm performance?
3. To what extent do ERM success factors influence firm performance?
4. Does board equity ownership moderate the relationship between the ERM framework implementation, ERM success factors and firm performance?
5. Why does firm implement ERM programme?

1.5 Scope of the study

This study focuses on examining the effect of ERM practices on the performance of financial institutions in Nigeria. Specifically, the study examines the influence of ERM framework implementation and ERM success factors on the performance of firms in the Nigerian financial industry. The study focused on the financial sector because of a number of reasons. Financial institutions are considered as the

economic drivers that improve the welfare of citizens of a country by supporting business entities and ensure efficient allocation of resources (CBN, 2010). Also, the Nigerian financial sector had seen a sequence of economic policy reforms, ranging from recapitalization, proliferation of corporate governance codes to ERM frameworks implementation (Iganiga, 2010). The Nigerian financial sector being the nucleus of economic productivity performs the dynamic role of intermediation, a provider of payment services and the pivot of monetary policy operations (Olusegun, Ganiyu, & Oluseyi, 2013). According to IMF (2013) report, the Nigerian financial sector accounted for about 61 percent gross financial assets of the Nigerian gross domestic product (GDP).

Another important reason for considering the Nigerian financial industry arises from the fact that the industry has been characterized by poor risk management consequence upon which CBN injected N620 billion to rescue ten banks from collapse in 2009 (CBN, 2010). This development has created the impetus for the researcher to assess the risk management practices of the Nigerian financial industry. While several countries might have implemented ERM, some key specific variables have received little attention in relation to the performance of financial institutions. Moreover, Fraser *et al.* (2008) suggested that further research is needed in the field of ERM to enable risk managers to learn from the experiences of organisations and countries that have implemented ERM framework due to different environmental settings. Moreover the selected variables were identified based on the practical problems.

Again, the environmental setting of a country may involve social, political, cultural and economic conditions that are capable of affecting the life, growth and development of business entities. Though Nigeria is a country blessed with abundant human and natural resources, the expected level of political, education and regulatory framework for effective operation of businesses may be lacking. The country lacked the critical infrastructure that could ease business operations. The Central bank of Nigeria reported that some sub-sectors of the Nigerian Financial institutions lacked the necessary knowledge required for effective risk management (CBN, 2012). As such, adopting some risk management concept from developed economies may not be efficient in shielding the operational efficiencies of financial institutions in Nigeria. The recent report on the ease of doing business placed Nigerian Business environment at 169th out of 185 countries. As such, the focus of the study is to examine the impact of ERM framework implementation and ERM success factors on the performance of Nigerian financial institutions.

1.6 Significance of the Study

This study provides more understanding on the relationship between ERM framework implementation, ERM success factors and the performance of financial institutions in Nigeria. The study provides empirical evidence on the influence of ERM framework implementation and ERM success factors (compliance, risk culture, risk management information, risk knowledge sharing, staff competence, organisational innovativeness and leadership role) on the performance of financial institutions in Nigeria. Similarly, the study empirically examined the moderating effects of board equity ownership on the relationship between ERM framework

implementation, ERM success factors and the performance of financial institutions in Nigeria.

Specifically, this study offers theoretical contributions to ERM literature stream. ERM is a paradigm shift that ensures comprehensive management of risks across the entire organisations. Modern Portfolio Theory is one of the primary theories that is used in this study to underpin the implementation of ERM in organisations. However, this study extends this theoretical discussion by integrating two other theories (agency theory and resources based view) to test the effect of ERM practices on the performance of financial institutions in Nigeria.

Although previous studies have examined the value relevance of ERM practices, most of these studies used CRO announcement as an indicator of ERM implementation. Using CRO announcements have not provided clear evidence in establishing the hypothesized benefits of ERM in organisations. In fact, the empirical contribution of ERM has remained untested due to too much reliance on CRO announcement as an indicator to ERM implementation, leading to inconclusive results (Acharyya, 2008). Hence, this study has contributed to the literature by using an embedded approach to empirically examine the value relevance of ERM framework as a signal to ERM implementation in the Nigerian financial industry.

Similarly, very few studies have investigated the influence of ERM key success factors such as risk management information system, risk knowledge sharing, staff competence and organisational innovativeness among others. Thus, this study is one of the few studies that examines the influence of these risk management variables on

the performance of financial institutions. It is also one the rare studies that were carried out in emerging economies like Nigeria. Moreover, the study adds to the current literature by empirically establishing the moderating effect of board equity ownership on the relationship between ERM framework implementation, ERM success factors, and firm performance, hence, the study has been able to mitigate the inconclusive findings regarding the value relevance of ERM in the financial sector.

Again, from the methodological point of view, the power of embedded triangulation has enabled this present study to further identify some benefits and challenges of ERM framework implementation. For example, tackling the issues relating to risk-awareness and knowledge gap might further strengthen the risk management practices of financial institutions in Nigeria. Additionally, the study covers both financial and non-financial performance of financial institutions, hence, it provides more clarity by identifying the intangible benefits associated with ERM implementation to firms.

Practically, this study is of immense significance to the financial industry and specifically to policy makers in Nigeria. This study provides a mechanism for further understanding of ERM practices in the Nigerian financial industry. Specifically, the study provides a valuable framework that further enhance risk management efficiency in organisations.

Given the myriads of problems that have surrounded the Nigerian financial industry, the study has explored the challenges affecting ERM practices. Hence, the results of this study provide information to the Nigerian financial institutions and the

regulatory agencies (SEC, CBN, NAICOM, and PENCOM) on the best way to improve ERM initiative. Therefore, the research findings provide important solutions to factors that influence firm performance. Finally, the study serves as an important stream for value enhancement and efficiency of risk management practices in Nigeria.

1.7 Definition of Key Terms

Operationalization is an effort by the researcher to give meaning to a concept by specifying the activities or operations necessary to measure it (Bhatti & Sundram, 2015). It refers to a procedure of defining the items that are expected to be used to represent the variable in a study (Hair Jr, Black, Babin, & Anderson, 2010). Therefore, this section operationalized the key variables based on which items are selected from the extant literature for measurement.

ERM framework

The ERM framework is a structure that provide the context and the methods to deliver ERM objective of an organisation. It explains the processes and the procedures for strengthening ERM practices in an organisation with a view to increasing firm performance.

Compliance

This study operationalised compliance to refer to a situation where firm complies with policies, laws and other regulations related to risk management initiatives.

Risk Culture

By risk culture in this study, we mean the values, beliefs, knowledge and conducive atmosphere that allow employees to have a common purpose of protecting the operating efficiency of the organisations.

Risk Management Information System

This refers to a system that collects, stores and disseminates risk information across the entire business units to support organisational functions and decision making process.

Risk knowledge sharing

This study defines risk knowledge sharing as an organisational strategy that facilitate the management of fortuities in the organisation through the exchange of risk knowledge among business units.

Staff Competence

This study operationalized competence as the degree to which organisational members are perceived as being skillful and reliable in performing their task.

Organisational Innovativeness

This study defined innovativeness as the willingness and ability of a firm to be opened, receptive and engage in supportive activities and creative processes to achieve better performance.

Board Equity Ownership

In this study, board equity ownership (BEO) is viewed as an initiative in which board ownership of shares in a corporation result in efficient board monitoring and higher firm's performance.

Leadership Role

Leadership factor is simply the capacity to establish direction and to stimulates other personnel toward achieving a common organisational objective.

Firm Performance

This study operationalized firm performance (financial and non-financial) as the ability of an enterprise to increase firm's earnings, achieve strategic business goals, improve managerial decisions capabilities due to the implementation of ERM.

1.8 Organisation of the thesis

This study is arranged into seven main chapters. The first chapter contains the background information that highlights the main reasons that motivate the study. It comprises the problem statement, the research questions; the objectives of the study, the scope of the study as well as the significance of the study. The second chapter presents a review of related literature on the variables considered in the study. The third chapter presents the underpinning theories, the conceptual framework and hypotheses development. Chapter four carries the methodology used in the research. Chapter five reports the quantitative data results and the sixth chapter presents the interview results. The seventh chapter discusses the findings and implications of the study. Finally, the chapter provides limitations and suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter discusses the concept of risks, risk management practices and enterprise risk management. It also reviews related literature on ERM framework implementation, ERM success factors and their effects on firm performance. Finally, the chapter gives an overview of risk management practices and compliance in the Nigerian financial industry.

2.2 The Concept of Risk

Human societies cannot achieve giant strides without bearing one form of risks or the other. It is argued that advancement in human development has been made possible because someone is ready and prepared to take up the pain of risk and uncertainty (University of Oxford, 2014). Over the last few decades, the concept of risk has taken a shift from been an adverse phenomenon that needs to be avoided, to a perception that risk provides business opportunities (Bekefi, Epstein, & Yuthas, 2008).

Traditionally, the concept of risk was used primarily to mean loss or hazard experienced by individuals. It was later expanded to include the loss of insured property or goods. In 1798, the concept was used in the law literature to describe the liability for loss or damage to property (Shattell, 2004). However, Otway and Keil (1982) identified two fundamental approaches regarding the concept of risk. They reported that some authors conceived risk as a social construct that is influenced by individual social values and beliefs, while others relate risk to hazardous

technologies. Similarly, Beck (1992) in his seminal work reported that though developments in science and technology have enabled societies to achieve economic progress it has further contributed to the emergence of new risks. Hence, opportunity and threat are the two sides of risk with each side having the potential to prevail given the enabling environment. Hence, for business to achieve its objectives, risk needs to be understood, evaluated and measured. Societal developments have continued to deal with the consequences of risks within the business environment (Holton, 2004). Thus, different scholars have defined risk from different perspectives. Below are some of the definitions of risk.

2.2.1 Definition of Risk

The term risk has eluded universal definition. Risk is an activity that affects all aspects of business operations (Fadun, 2013b). Some scholars have considered risk as an objective process that can easily be quantified. For example, Rejda and McNamara (2014) defined objective risk as a negative deviation of actual from the anticipated result. Explaining further the meaning of objective risk, Knight (as cited in Holton, 2004) affirmed that objective risk is akin to throwing a die in which probabilities are generated base on available homogenous data. He further contended that in the absence of symmetry and data homogeneity, managers quantify uncertainties based on their mental belief (subjective risks).

In a more comprehensive submission, Holton (2004) affirmed that risk is the exposure to uncertain events. It is simply any activity that can either threaten the operating efficiency of organisations or if properly explored can lead to competitive advantage. Some scholars have defined risk in probabilistic terms as a meeting point

between success and the likelihood of failure (Bartesaghi, Grey, & Gibson, 2012). According to International Finance Corporation (2012), risk is associated with both threats and opportunities. It is important to note that business operations create possibilities for different classes of risks. Risks such as financial, operational, strategic, reputational and legal among others.

Financial risk is an umbrella term for various types of risk that is connected to different aspects of financing. It simply refers to the possibility that shareholders will lose part of their investments when the cash flow of a company proves inadequate to meet its financial obligations. In a general term, financial risk is viewed as any variability in the cash flows and stock value of a company due to the influence of different forces such as interest rates, exchange rates, commodity and stock prices among others (Blach, 2010). On the other hand, operational risk is a risk that is inherent in business operations. Bank for International Settlement (2011) defined operational risk as the possibility of loss arising from ineffective internal business processes, people, and systems or even from external events. An efficient management of operational risk is simply a reflection of the effectiveness of the board and top management in the administration of a firm.

Strategic risks refer to threats or opportunities that immensely affect the ability of a business firm to survive (Allan & Beer, 2006). In spite of the importance of strategic risks, the existing risk management techniques that heavily relied on historical data to model the risk may not efficiently deal with strategic risk. Strategic risks forced managers to rely on subjective judgement when quantitative techniques fail to make sense of complex business interactions. Allan and Beer (2006) indicated that the

difficulty associated with the management of strategic risk may not be unconnected with the “interconnected dynamic processes” of strategic risks. The prime cause of strategic risks is usually human inefficiencies and their unpredictable behaviour. The steps a firm ought to take to deal with strategic risk largely depend on the maturity of its overall ERM processes (Frigo & Anderson, 2011b).

Other risks include reputational and legal risks. Reputational risk represents the risk of a loss in business license or brand value (Society of Actuaries, 2010). Legal risks are risks that are attributed to the inability of a business firm to meet contractual provisions (Moorhead & Vaughan, 2012). According to Deloitte (2013), reputational risk is the top focus area in the provisions of financial services. This simply relates to the fact that reputations built up over decades can be destroyed in an instant. The availability of different communications channels has increased the frequency and severity of reputational risks as customers can make decisions based on social media comment reducing the time required for the firm to articulate a response.

Bank for International Settlement (2011) reported that technological advancement has increased the level of exposures to strategic, operational, and reputational risks and the likelihood of substantial financial loss. Hence creating the need for an integrated approach that will effectively identify, assess, control and manage different types of risks. The aftermath of the global financial crisis created the need for firms to clearly link their business strategies with risk management to ensure efficient risk assessment, particularly in a highly volatile business environment (Koenig, 2008).

In the context of this study, risk is defined as any uncertainty or event that either threaten organisational objective or provides opportunities for effective business performance.

2.2.2 Historical Development of Risk Management

Several sources in the literature have traced the concept of risk management to the year 1955 (Harrington & Niehaus, 2003; Williams & Heins, 1995). Dionne (2013) stressed that the new aspect of managing risk emerged during the mid-1950s as a substitute for insurance buying due to the high cost of insurance policy. He further asserted that organisations developed contingency planning activities and a series of risk prevention techniques within the period. During that period, risk management was not considered as an aspect of the business management process. It is simply a mechanism for taking precautionary measures to ensure the success of business operations (Kalita, 2004). There was neither quantitative practice to assess risk nor the technology available to manage and distribute it. Hence, business activities became defenseless and prone to various types of risks.

Furthermore, the traditional role of insurance as a mechanism for managing risk became less popular due to the liability insurance crisis of the 1980s in the USA (Dionne, 2013). The insurance crisis occurred due to exorbitant premium and partial risk coverage. Consequently, the global risk management organisations such as Risk Management Society (RIMS) began to push for risk management legislations. It was around the 1980s that International regulation of risk began to emerge (Dionne, 2013). As such, risk management became an essential instrument that organisations used to achieve business objectives.

In another trend, Doherty (2000) opined that risk management emerged from the concept of modern finance theory, which considers it as financial decisions placed within the purview of shareholders' value. It is a set of steps design to maximize the value of a company by decreasing the cost associated with earnings volatility (Dionne, 2013). It is a deliberate effort intended to minimize the cost of financial distress, protect the interest of the stakeholders and increase the efficiency of investment. Risk management is expected to increase the confidence of business organisations; reduce business threats to an acceptable level and serve as a mechanism for taking useful decisions about business opportunities (HM Treasury, 2004).

Also, risk management has been considered as one of the most strategic avenues for improving firm performance (Doherty, 2000). It makes sense to state that one of the primary strategic objectives of any business firm is to preserve its operating efficiency. Similarly, Archer (2002) pointed out that the successful operations of corporate organisations depend on the ability of the company to manage uncertainties. Archer argued that management of risk and uncertainty can be seen from two perspectives (i.e. traditional and integrative approaches).

Traditionally, risk management is defined as a general management function that tries to detect, gauge, and address the effects of uncertainty and risk in an organization (Williams & Heins, 1995). Also, Stulz (1996) viewed risk management as the process of planning, organising, leading and controlling the activities of an organisation to protect the operating efficiency of the firm. Consistent with the above

definitions, Rejda (2005) defined risk management as a process of identifying exposures and the selection of the most appropriate techniques to deal with it. The available methods include avoidance, reduction, retention and risk transfer (Bharathy & Mcshane, 2014). Several organisations adopt this traditional approach usually referred to “silo” based approach. This approach often limits the focus of risk management to uncertainties around physical and financial assets, and it focuses mostly on loss prevention, rather than value addition activities (ACI Worldwide, 2014). The primary deficiency of the traditional approach to risk management is its narrow focus on threats, rather than focusing on both opportunities and threats (Fadun, 2013b).

In a similar trend, studies have asserted that traditional risk management (TRM) approach increases the cost of managing risks, and it does not allow senior managers and boards of directors to have a clear view of the effect of risk (Lam, 2000; Manab *et al.*, 2010). Though TRM approach to some extent reduces earnings volatility, it does not take care of the interdependencies of risk events (Hoyt *et al.*, 2008). Under this approach, risks are managed independently through different departments by independent risk management specialist. Conversely, ERM provides an opportunity for organisations to combine all the classes of risks affecting an enterprise into a single structure (Hoyt *et al.*, 2008). This idea of an integrative approach to risk leads to the concept of enterprise risk management (ERM). Thus, risk management is a mechanism for business development activities and reducing the economic waste of societies (The World Bank, 2013). It is clear from the existing literature that for the management of an organisation to manage risk effectively, the process must cut

across the entire organisational structure so that all stakeholders are involved in the process to ensure effective risk management decisions.

2.3 Overview of Enterprise Risk Management

The dynamic nature of business environments and the alarming reports of corporate frauds around the globe have triggered world business leaders to examine the effectiveness of risk management programmes on organisational success (Dafikpaku, 2011). This development has brought risk management issues to the forefront in both developed and the developing economies. Similarly, following the various corporate scandals and bankruptcies of leading business firms, the United States of America (USA) introduced the Sarbanes-Oxley regulations in 2002 to prevent further firm's failure. Dionne (2013) affirmed that these regulations have not been able to prevent the 2008 global financial crisis. For example in 2008, a US firm, Merrill Lynch lost about \$30 billion on the back of soured mortgage investments due to risk management failure (Fadun, 2013b). It is in this view that organisations saw the need to search for a more comprehensive approach to organisational risk called enterprise risk management (ERM).

Miller (1992) is among the first leading scholars to examine the theoretical benefits of ERM. He is among those who provided an alternative approach that best handle the inefficiencies of traditional risk management by proposing an integrated risk management approach. Miller further argued that the segregated treatment of risks (traditional approach), as it exists in management literature, does not provide a sufficient foundation for examining the implications of strategic decisions. Explaining the benefits of ERM to organisations, Nocco and Stulz (2006) reported

that ERM creates value to organisations in two ways. Firstly, at the macro level, ERM creates value through the efforts of senior management to measure and establish a risk-return trade-off in the entire organisation. It allows firms to put in place the necessary capital and resources for implementing effective business strategies. At the micro level, ERM instills a risk culture across the entire firms. It becomes a way of life for managers and employees at all levels of the company to ensure that all material risks are assessed, and risk-return tradeoffs carefully appraised.

The risk management function has become a central issue for business firms having the objective to identify, analyse and manage the sources and effects of uncertainty and risks in a company (Ciocoiu & Dobrea, 2010). At present, organizations have come to the conclusion that no matter how insignificant, business risk can cause considerable damage to organisations due to the interaction of risk with other events, (Ciocoiu & Dobrea, 2010). Hence, scholars and professional bodies have provided several definitions of ERM.

2.3.1 Definition of Enterprise Risk Management

Some studies have tried to provide a comprehensive explanation of the meaning of ERM. Kloman (1992) asserted that risk management is mostly based on the idea that risk managers should manage "holistically" all organizational risks. This view is purposely harmonious with total quality management (TQM) principles and relies heavily on the language and concepts of engineering and operations management. The main reason for risk management is to enable an organization attains its primary goals and objectives (its mission) in the most direct and efficient way. Also, Lam

(2000) defined ERM as a unified framework for managing operational risk, credit risk, market risk, economic capital, and risk transfer to maximize firm value. This definition further highlights the concept of a holistic approach to risk issues in organisations.

Casualty Actuarial Society (2003) defined enterprise risk management as a discipline that enables an organisation to assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the stakeholder value. Similarly, COSO (2004, P. 2) defined ERM as:

“A process, effected by entity’s board of directors, management and personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives”.

This definition has clearly put the whole theoretical argument of ERM in perspective. That ERM is a multi-dimensional process aligns with the operational activities of organisations. This definition has further articulated all the components of ERM and what is needed to ensure the effectiveness of ERM in the firm. Specifically, it identifies the role of management and other personnel in providing reasonable assurance regarding the achievement of entity’s objectives. It has also emphasized the role of employee involvement throughout the entire process of ERM implementation and enforcement (Togok *et al.*, 2014). Similarly, Lai and Samad (2011) asserted that ERM is a process of identifying and analyzing risk from a company-wide perspective. It is a structured and disciplined approach that aligns strategy, processes, people, technology and knowledge with the aim of evaluating and managing the uncertainties facing the business enterprise.

Specifically, ERM ensures that organisational strategies are tied to business objectives; enhance the overall value of the organisations, and enable organisations to develop a risk-matured culture that will facilitate proper risk assessment (Fadun, 2013a; Meulbroek, 2002; Monda, Giorgino, Psrvlxp, Monda, & Giorgino, 2013; Protiviti, 2006). In the light of the above discussion, it can be affirmed that ERM is simply an integrated process that identifies, assesses and measure all aspects of risks that are likely to affect the operating efficiency of the business organisations. It is in that view that Standard and Poor's (2013) defined ERM as a holistic risk management process that adequately control unexpected losses within the framework of cost-benefit optimization analysis. This definition views ERM as a systematic process that cut across the entire organisational structure.

Thus, drawing from COSO's perspective, this study defined ERM as an integrated risk management process initiated by the top management for identifying, prioritising and managing potential events and operations across the entire enterprise; that could affect the entity's ability to remain within its risk appetite, and improve firm performance.

2.3.2 The Difference between TRM and ERM

The traditional risk management is a risk management technique that focuses more on the management of pure risks (D'Arcy, 2001). Torbira and Ngerebo-A (2012) noted that TRM is an approach concerned with solving management problems that relate to pure risk exposures. It is an approach where organisations manage risks without taking into account the correlations between several sources of risks (ACI Worldwide, 2014; Arnold, Benford, Canada, & Sutton, 2011). They argued that

TRM risk management approaches were neither strategic nor compliance-oriented (Arnold *et al.*, 2011).

Protiviti (2006) reported that while TRM may focus on financial/ hazard risks control, ERM tend to concentrate on the entire business risks. Fundamentally, the concept of ERM adopts an integrated approach to all types of risks facing a business entity. The TRM associates risk with negative tendencies that must be controlled. This type of risk management orientation is largely cost based oriented. In contrast, ERM is an integrated process that associates risk with both threats and opportunities. Simona-lulia (2014) attested that TRM is retrospective, ad-hoc, people focused and fragmented while ERM is a proactive and process oriented. ERM is simply a process that uses a framework to guide the whole risk management activities of an organisation (Gatzert & Martin, 2013).

ACI Global Research (2014) believed that the benefits of ERM adoption outweigh that of TRM. They noted that ERM decrease the costs of doing business by deployment of the right technology, improves workflow effectiveness and consolidate customer services among others. ERM enables firms to gain a comprehensive knowledge of each client's risk behaviour (ACI Worldwide, 2014). Gatzert and Martin (2013) affirmed that ERM cumulates all the risks facing an enterprise by considering all the interactions between the risks to enable a better assessment of risks and promote effective decision process.

On the other hand, Moeller (2007) reported that a firm may have a sound credit risk strategy housed in silo for credit operations and another proper risk assessment

strategy in silo covering IT department with no interaction between one silo and another. These two processes need to communicate and adopt a standard approach to economically and efficiently control the effects of the different eventualities facing these two business departments. Apparently, business firms that apply this concept of the portfolio of risks are likely to have accurate risk-adjusted rate than those with the fragmented risk management approach (Hoyt *et al.*, 2008).

Based on the above discussion, it is logical to believe that segregated treatment of risk that exists in silo based system doesn't provide a sufficient foundation for examining the implications of strategic decisions.

2.3.3 ERM Drivers

Studies have identified several factors that encouraged ERM implementation in various industries around the world. In an empirical study, Beasley, Clune and Hermanson (2005) explored the factors that determine the adoption of ERM in 123 US based organisations. The findings indicated a positive relationship between the stage of ERM implementation and the support of key risk management officers (e.g. Chief risk officer, board independence, chief financial officer, the presence of the big four auditor and the entity size). However, the study is limited by a number of factors. For example, the data for the study was gathered from chief executives who may not likely get involved in the day to day activities of ERM. Similarly, Golshan, Rasid, and Zaleha (2012) revealed that firms with high financial leverage and a big four auditor type are more likely to implement ERM. In another related study, Desender, (2007) maintained that the position of the chief executive officer (CEO) in the board has a significant influence on the level of ERM implementation in the

organisation. The study further revealed that firms with an independent board and a separation between CEO and Chairman show the highest level of ERM practices implementation. However, what makes them to be committed had not been identified. Perhaps the commitment from these key officers might be influenced either by their educational orientation or skills that made them appreciate the importance of risk management in the organisation.

Abdullah *et al.* (2012) argued that ERM drivers could be traced either internally within the company or externally outside the company. The study revealed that internal factors such as management support enhanced the capability of chief risk officer to effectively manage risks. Also, the study reported some external factors such as corporate governance, compliance with regulatory provisions and external auditors as among the drivers that encourage firms to implement ERM. Also, a study conducted by Seamer, Choi and Lee (2009) indicated that corporate governance attributes positively influence the effectiveness of ERM implementation in organisations. Other factors that may either encourage or hinder the implementation of ERM may include cumbersome nature of setting up the risk management process, the organizational and cultural view of risk management.

Pagach and Warr (2007) discovered that the adoption of ERM programs is associated with companies that have high financial leverage, high volatile operating cash flows, and greater composition of institutional ownership. On the other hand, they reported that firms with more growth options and those with more considerable changes in market value are less probable to implement ERM. Consistent with this position, Gatzert and Martin (2013) conducted a systematic review to appraise the

determinants of ERM and its value relevance comparatively. Again, company size and the level of institutional ownership were reported to have positive and significant relationship to ERM implementation.

In a recent study of the African context, Kanhai and Ganesh (2014) examined the determinants of ERM adoption among banks in Zimbabwe. The findings reveal that all the four variables namely portfolio view of risk across the enterprise; risk aggregation and consolidation; integration of ERM into strategy and operations; and aggregated bank-wide risk reporting to be among the major determinants of ERM adoption in Zimbabwe banking industry.

Examining how organisations are embracing the concept of ERM, Daud, Yazid and Hussin (2010) reported that out of the 500 public listed firms in Malaysia they have surveyed, 42 percent of these companies have completely adopted ERM programmes. The study revealed that the quality of CRO has a strong effect on the level of ERM implementation among the study firms. Likewise, Hoyt and Liebenberg (2011) revealed that the quality of CRO strongly influences the level of ERM adoption in an organisation.

Apparently, among drivers of ERM implementation, support from key board members, top management support, the existence of the big four audit firm, company size and institutional ownership are the most commonly cited in the literature. While it is important to acknowledge the identification of a number of factors that encourage ERM implementation, more drivers need to be identified to encourage

firms that have not implemented to see sense in ERM as a comprehensive risk management strategy.

2.3.4 ERM Implementation Challenges

One of the fastest ways of implementing an effective ERM program is to get everyone on board and to enable each business unit to identify its major business risks, learn how to address those risks and manage those risks efficiently (Galloway & Funston, 2000). In a risk management survey, BaxterBruce Ltd (2013) indicated that companies are expected to surmount some key challenges for effective implementation of ERM. Some of these key challenges include commitment of resources, changes in employee attitudes, strong leadership support and the ability to embed ERM culture throughout the company. Kerstin, Simone, and Nicole (2014) asserted that because firms face volatility, uncertainty, complexity and ambiguity challenges, the managers need to anticipate what could happen within its environment for them to be able to offer the right solutions. They argued that another major ERM implementation challenge relates to the problem of supporting technology. For firms to make a headway in ERM practices, the right skills and technology need to be deployed. A study conducted by Lam (2007) indicated that hiring and retaining risk management professionals with appropriate experience and skills is among the major challenges of ERM implementation.

Fadun (2013) asserted that organisations implementing ERM faces several challenges. He identified the following as some of the major ERM implementation challenges. They are: defining the risk terminology, selecting a framework, creating a risk-aware culture and deployment of supporting technology. Similarly, Lai (2014),

the constraints associated with ERM implementation includes financial and human resources, supporting technology and expertise. Also, Galloway and Funston (2000) argued that organizations that implemented ERM will be positioned as an organization which has risk management as a core competency, and which is able to anticipate risks better than its competitors, assume risks that intimidate its competitors, and reduce risk management costs below its competitors.

While some studies have identified some challenges associated with ERM framework implementation, the peculiarities of different environmental settings may inform the need to examine the likely ERM framework implementation challenges confronting the Nigerian financial industry.

2.4. ERM Framework Implementation

The ERM framework is one of the indispensable factors that signal the implementation of ERM in organisations (Dafikpaku, 2011; Thornton, 2009). ERM frameworks are guides designed to give backing to a practice that is methodical and efficient in achieving organisational objectives. Essentially, the framework is a prerequisite for controlling risk in a wide basis (Dalgles & Cooper, 2005). As such, Moeller (2007) asserted that ERM entails a sequence of steps that allow organisations to review and analyze potential risks events. His view is that ERM is a business strategy planned at the board level but implemented by top management to enable them grasp the implication of risk. Risk management framework is a set of elements that allow firms to put in place a solid foundation for planning, effecting, monitoring, controlling and continually improving the firm's risk management program (Gjerdrum & Peter, 2011). ERM Frameworks is simply a guide that

provides the firm with an overview of diverse interconnected actions within a firm that helps achieve risk management objectives (Malik & Holt, 2013).

Equally, Lai and Samad (2011) referred ERM framework as a structure designed to identify and analyze risks from a company-wide perspective. It is a method that brings into focus strategies, practices, people, technology and knowledge with the aim of evaluating and handling the uncertainties confronting the business firms. ERM framework serves as a guide for interrelated activities intended to simplify ERM program in business organisations (Dafikpaku, 2011). Therefore, Dafikpaku (2011) explained ERM framework as a set of practical activities that explain how organisation go about its ERM practices.

DeLoach and Thomson (2014) emphasized the view that frameworks suppose to guide the implementation, monitoring of ERM in order to provide reasonable assurance to achieving organisational objectives. As such, ERM is expected to put a balance concerning risk and reward and to minimize the consequences of adverse events. Simply put, ERM framework is a standard or conventions design to continuously identify, assess and select a tactic to respond to fears in order to ease the achievement of business objectives. It involves all the constituents of real governance practices that help management to make inform policy decisions about firms' risk (Lai, 2012). Seemingly, ERM framework is one of the important compasses that aids the implementation of ERM in organisations. ERM is an all-inclusive structure aimed at assisting firms to detect, evaluate and address all classes of risks with the full support of the management and board of directors (BOD).

Principally, the policy target of ERM programme is to increase the shareholder value (Manab & Ghazali, 2013) which will invariably improve firm performance. Consequently, very few studies assessed the strength of ERM framework implementation and its influence on firm performance (Togok, Ruhana, & Zainuddin, 2013). As a result, a number of professional bodies have designed frameworks that clearly and comfortably entrenched sound culture into the firm. Below are some examples of available ERM framework standards:

Table 2.1

ERM Frameworks

Standard	Author	Year
BS 6079-3:2000: Project Management – Part 3: Guide to the Management of Business-related Projects Risk	British Standards Institution (BSI)	2000
IEEE Standards 1540-2001: Standard for Software Life Cycle Processes - Risk Management	Institute of Electrical and Electronic Engineer, USA	2001
Risk Management Standard	Institute of Risk Management/National Forum for Risk Management in the Public Sector UK	2002
COSO II	Committee of Sponsoring Organisations of the Treadway Commission	2004

Table 2.1 (Continued)

Standard	Author	Year
	International Standard	
ISO31000:2009	Organisation [ISO]	2009
MS ISO 31000	Malaysian Standard	2010
Guidelines for Developing Risk Management Frameworks	CBN, Nigeria	2012

Additionally, DeLoach and Thomson (2014) argued that ERM framework could lead to high firm performance if efficiently implemented. In related studies, Monda and Giorgino (2013) affirmed that for ERM programme to be effective, there should be an enabling organisational structure that easily assigns responsibilities and reward good initiatives. Organizational structures refer to the set of relationships that explain the roles of employees in the organization (Grossi, Royakkers, & Dignum, 2007). It helps the organisation to maximize and raise its efficiency, as well as the profitability level. It is an arrangement that is used to delineate the hierarchy within an organization. It is one of the distinguishing features of ERM and to some extent determines its success. As such, for ERM to be effective organisational structure has to be flexible and efficient (Monda *et al.*, 2013).

Further, to achieve efficiency in the ERM process (which indicates the step by step application of the risk management framework in line with the business objectives) needs to be given similar attention (Laisasikorn & Rompho, 2014). In this view, COSO (2004) defined ERM process as an iterative interplay of actions that cut across the entire organisation. Monda and Giorgino (2013) asserted that most of the frameworks are common in their design. For example, all the risk management

standards emphasize the importance of governance (i.e., the role of board members) and sound structure in ensuring best ERM practices. They all explain the phases that make up the process, from the setting of the ERM objectives to the context of risk identification and evaluation of the treatment and control points.

Available ERM literature has provided a series of essential elements that organisations have to consider in designing ERM frameworks (COSO, 2004; Lam, 2000). For example, the ISO 31000 explains the scope of ERM as a universal risk management with principles, framework and process. The framework describes the rudiments for developing risk management programs. Firms are expected to define the principles and objectives based on their peculiarities. Establish effective mechanisms for risk assessment and determine the appropriate risk management treatment devices that will ensure efficiency in the process. According to Hoffman, (2009), ERM is a process designed to bring together strategies, resources, technology, and knowledge with a view to assessing and managing the uncertainties of business enterprises. ERM framework set up the processes and the structure that will identify, evaluate, prioritize and manage risk exposures across the firm (Minnesota Department of Transportation, 2013).

In other words, ERM enables leaders at all levels to systematically evaluate and understand the implications of decisions and actions to the agency's highest priority goals and objectives. The ERM Framework relates to strategic, business and project levels of risks. Hence, at the strategic level, the framework is integrated and aligned with the vision and mission statement to deal with contingent events that may affect the organization's ability to realize business objectives. The framework uses a common language to describe the procedures for measuring, assessing, prioritizing

and managing risk across the entire organisation (COSO, 2004; Moeller, 2007). It provides an avenue for both employer and employee to understand the basic tenants of managing risk across the entire organisation.

Thus some of the ERM frameworks listed in Table 2.1 are being used by many firms across the world to indicate ERM implementation. The 2008 ERM assessment steered by the Global Audit Information Network in collaboration with Institute of Internal Auditors (IIA) reported that out of the 240 organisations (comprising banking, insurance, transportation and manufacturing) surveyed, only 40.4% have implemented an ERM program (GAIN, 2008). While organisations increasingly recognizes the importance of ERM, several organisations have either partially or the initial stage of implementation. Thus, it is logical to argue that for ERM to achieve the objective of increasing firm performance, it may involve the use of a well-designed framework that will allow risk management culture to get entrenched in an organisation.

In a nutshell, an ERM framework incorporates the process for managing risk into an organization's general governance structure, strategy, and planning, values and culture. Consistent with Lai and Samad (2011), in this study, ERM framework refers to risk management structure that explains the process, strength, and the penetration level of the ERM practices with a view to increasing firm performance.

2.4.1 ISO 31000: Principles, Framework, and Process

One of the universally accepted ERM framework that received wide acceptance is “The International Standard for Organisation” (International Standard Organisation

[ISO], 2009). ISO 31000 is a risk management standard published by international standard organisations (ISO) in 2009 (Leitch, 2010). ISO 31000 evolved as a result of series of efforts from representatives of 29 countries, including the United States of America and several other international interests groups, worked within an ISO international working group. Dali and Lajtha (2012) argued that ISO 31000 represents the collective wisdom of many people and international interest groups on what constitute a good risk management practice. Specifically, ISO 31001 is intended to facilitate the integration of effective risk management into organisation's overall management system. It is expected that the components of the ISO framework should be incorporated based on organisation's needs.

The ISO 31000 is developed to help corporations manage in a comprehensive way the various types of risks through the integration of risk management approaches (Lalonde & Boiral, 2012). Purdy (2010) pointed out that ISO has succeeded in integrating risk management approaches into a distinct succinct and real framework. The idea is to have one vocabulary for risk communication across organisations, establish criteria for performance evaluation, design a universal risk management process and explain how to integrate the process into decision-making (Purdy, 2010).

Despite the influence of ISO 31000 in establishing a uniform approach to risk management process, Aven (2011) argued that the ISO 31000 had failed to produce consistent and meaningful definitions of various fundamental concepts of risk. In some instances, basic principles underlying the ISO 31000 standard are either not, or are poorly, integrated into the strategic practices of organizations (Lalonde & Boiral, 2012). Further, Aven (2011) argued that the ISO 31000 definition of risk could

generate different interpretations that can affect the ability of firms to establish a consistent risk management frameworks. Choo and Goh (2014) argued that the ISO 31000 need to be customised in a way that will make it proactive in addressing risks and opportunities with a view to creating stakeholders value. According to Mikes and Kaplan (2014), it is too prmture to suggest the best risk management framework to be incorporated into a future common body of knowledge for an emerging risk management practices. Below is a diagram of the ISO 31000, indicating the steps for the application of the risk management process:



ISO 31000: Principles, Framework, and Process

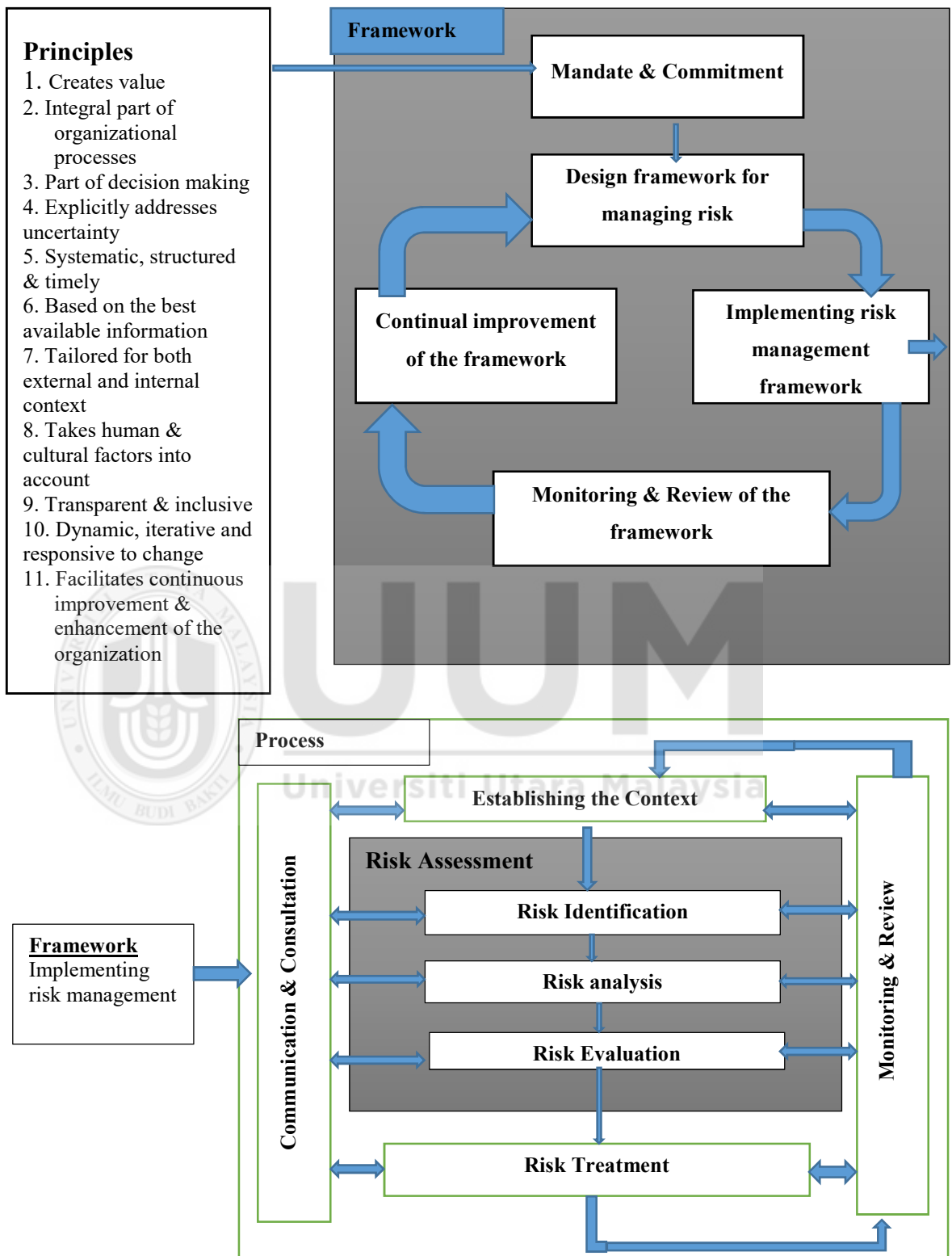


Figure 2.1

ISO 31000: ISO 31000: Principles, Framework, and Process

Gjerdrum and Peter (2011) compared the scope of COSO framework with the ISO 31000. While the ISO 31000 is an International Standard framework that provides general guidelines on how organizations both private and public can implement ERM, it captures the fundamental concepts for the application of ERM across organizations. The COSO framework focuses on the achievement of business objectives and provides the basis for defining ERM effectiveness. The ISO 31000 risk assessment procedure is based on the traditional risk management process of risk identification, risk analysis, risk evaluation, and treatment. The COSO's risk assessment is based on frequency and severity as the basic source for determining how risks are managed. The main objective of COSO ERM framework is to improve firm performance through better integration and alliance of firm strategy, risk management, control, and governance.

The strength of ISO 31000 framework is the identification of risk owners and essentially the provision of extensive education about risk at the internal and external organizational level. Gjerdrum and Peter (2011) contended that ISO 31000 framework is a standard that make risk management central to the success of an organization. Thus, it can be affirmed that the ISO 31000 have led to the risk management convergence by integrating all risk management functions and aligning those functions with the firm's business objectives. Mikes and Kaplan (2013) asserted that ISO 31000 tend to be more suitable and applicable to all classes of risks and generally fit to be adapted to all types of organizations. This development had led to the proliferation of different ERM frameworks (Abd Razak, Ab Rahman, & Borhan, 2016).

It is evident from the ISO review that risk framework integrates the process for managing risk into an organizations' governance structure, which if efficiently implemented will lead to high firm performance.

2.5 ERM Success Factors

The concept of success factors has been in practice since the 1970s (Yaraghi & Langhe, 2011). The concept refers to a systematic way of identifying the critical areas, or signposts, that require constant and careful attention of management in order to achieve higher firms' performance (Ram & Corkindale, 2014). Rockart (1978) was among the first authors to introduce the concept of success factors in organisations. He defined success factors as "the limited number of areas in which results if they are satisfactory, will ensure competitive performance for the organisation" (Rockart, 1978, p. 12). Specifically, firms need to identify few key areas where things need to go right for the business to flourish. Freund (1988) viewed success factors as essential ingredients that are suitable for each unit of business organisations. Mcleod and Scheel (2004) defined it as "one of the firm's activities that have a strong influence on the ability of the company to meet its objective".

Since ERM is a holistic process, this study focuses on compliance, risk management culture, risk management information, risk knowledge sharing, staff competence, innovativeness and leadership factor as important success factors that can drive business performance. These factors have received little attention in the ERM literature stream. Moreover, Strauss and Corbin (1998) argued that success factors

ought to reflect the study practical issues. As such, these success factors emerged from the practical issues raised in this study.

2.5.1 Compliance

The recent global incidents of corporate frauds and the rising threat of competition have made countries and business organisations around the globe to enact certain relevant regulations and expect companies to provide periodic compliance reports (Muller & Supatgiat, 2007). Berenbeim (2004) opined that compliance is an essential component of ERM; as such an effective ERM implementation requires a strong reinforcement of compliance systems. Compliance can be viewed from different perspectives. For example, Martens and Teuteberg (2011) have identified two classes of compliance (compliance with regulations or compliance audits). The regulatory compliance can be categorised into internal (corporate standard or governance) and external regulations (industry standard, risk management standard, certification standard). This categorisation can either be voluntary or obligatory (Antonopoulos & Gillam, 2010).

Compliance with regulations and standards may be an important risk management factor that determines the success of a firm (Martens & Teuteberg, 2011). Therefore, the term compliance describes how firms adhere to laws, regulations, policies that are relevant to business operations. Compliance with regulatory provisions reduces the transaction cost and facilitate the achievement of strategic business objectives (Organization for Economic Cooperation and Development [OECD], 1999) and at the same time reduces business complexity.

The complexity of the business environment has encouraged regulatory agencies to come up with provisions that will enhance regulatory compliance (Organization for Economic Cooperation and Development [OECD], 1999). In many countries, regulators encourage firms to improve both their risk management initiatives and risk reporting process (Collier, Berry, & Burke, 2006). Examples of such regulatory laws include the NYSE Corporate Governance Rules, the Sarbanes-Oxley Act in the US; the Security and Exchange Commission (SEC) corporate governance code in Nigeria. Most of the provisions of these regulations apply to listed firms, and require companies to maintain a sound risk management framework. Complying with appropriate laws are likely to improve firm performance. In fact, some scholars are of the view that firms adopt ERM to guard against regulatory pressure (Paape & Spekle, 2012).

Hopkins (2011) argued that using regulations to direct employee behaviour may create a compliance culture that negates risk awareness. Organisations can avoid this problem by establishing some possible rule modification into the management system, to ensure compatibility between compliance and risk awareness (Hopkins, 2011). Similarly, compliance describes the objectives organisations hope to achieve by taking steps to obey relevant legislation and regulations guiding business operations. It is the responsibility of the board of directors and management to ensure that regulations that are likely to improve the company processes are obeyed (The Joint Forum, 2005). Compliance tends to be more efficient in an organisation where the board of directors and senior management adopt the idea of lead by example. According to Arthur (1994), compliance is simply an effort to do things the

best way. In other words, it refers to the ability of a firm to adhere to applicable laws and regulations, including both internal and external policies (Steinberg, 2011).

Considering the above arguments, it is clear that compliance with both internal and external factors may improve the efficiency of business firms. As such, the present study operationalises compliance as an effort by an organisation to comply with all organisational policies and conventions, legal regulation, which will lead to the success of business operations.

2.5.2 Risk Culture

Interest in the firm's cultures have become the concern of major financial institutions after the global economic meltdown. In other words, the post-global financial crisis raised the awareness of firms on issues related to risk culture. Steinberg (2011) argued that the 2008 global meltdown was the consequences of a series of poor risk culture and commitment to short run gain by the firm. This argument was further supported by Asher and Wilcox (2015), who believed that business failure in financial sector industry is usually a function of weak business culture. For example, the mortgage institutions in the US developed a culture of "get my money now, damn the customer". This negative practice ultimately resulted in a crisis that consumed both firms and the customers. They contended that the approach of the majority of financial institutions to culture is often inadequate as some try to adopt a mechanistic approach where risk culture is reduced to a treatment tool.

Asserting the importance of culture, Institute of International Finance (IIF) (2008) argued that risk culture is most fundamental components for efficient risk

management practices in financial institutions. Culture plays a significant role in shaping the collective attitudes of people within an organization (Barnabei, 2008). It also shapes firms investment behaviour and explains how firms respond to market changes (Kimbrough & Compton, 2009). Similarly, researchers (such as Deloitte, 2012; Soegomo, Habsyi, & Arif, 2014) have argued that organisational risk culture is among the main features of ERM implementation. For ERM practices to succeed, risk culture has to be entrenched in all stages of the organization (Roslan & Dahan, 2013). KPMG (2011) indicated that a sound risk culture is necessary for organisational success. In fact, the 2004 COSO framework viewed organisational risk culture as one of the essential components of ERM practices.

According to Bruno and De-Sousa (2009), the term corporate culture can be traced to Hofstede cross-cultural study. Hofstede (2001) developed a widely used model of national culture along the dimensions of uncertainty avoidance, collectivism/individualism, power distance, and masculinity/femininity. Zheng (as cited in Asher & Wilcox, 2015) noted that Hofstede's dimensions tend to lead to shorter term debt in financial markets, with a high probability to contribute to systemic risks. Making reference to uncertainty avoidance dimension, Zheng alluded that uncertainty avoidance may lead to shorter term belief because it dissipates the feelings of uncertainty, rather than a more rational evaluation of the risks.

It constitutes the collective attitudes of individual to the whole organization. Business frauds, the collapse of complex systems, safety breaches, and operational failures have their history in unique organizational cultures that allowed particular risks to take root and grow. Levy, Lamarre and Twining (2010) believed that a

strong risk culture needs to demonstrate several critical and mutually reinforcing elements that include: a clear and well communicated risk strategy, high standards of analytical precision and information-sharing mechanisms across the firm, visible and consistent role-modeling of desired behaviors and standards by senior managers as well as incentives which encourage people to “do the right thing” and think about the overall health of the whole organization. Consequently, studies have continued to determine the better meaning of culture as it relates to organisations.

According to Power, Ashby and Polermo (2013), there is no universally accepted definition of culture. McKinnon, Harrison, Chow and Wu (2003) defined organisational culture as a system of shared values, norms, beliefs, a way of thinking and attitudes among all the members of an organization. Equally, Schein (2004) defined organizational culture as a pattern of shared norms among employees that enable smooth integration of work processes. According to Daft (2010), culture is viewed as an assemblage of values and norms shared by members of an organisation. It suffices to say that organisational culture pertains to the numerous facets of norms, beliefs, and values shared among individuals within the same organisation.

While recent development tends to focus on risk culture, it was reported that there is generally no difference between risk culture and corporate culture (Power *et al.*, 2013). COSO (2004) described risk culture as one of the internal environmental factors that provide the basis for the efficient functioning of the ERM programme. Levy *et al.* (2010) defined risk culture as a norm that determines the collective ability of employees to discuss openly and act in the interest of the organization. Risk culture consists of the general awareness, attitudes, and behaviours of an

organization's employees toward risk management. Hillson (as cited in Bostanci, 2013) defined risk culture as the set of norms and forms of behaviour that are built into organisations to deal with threats and opportunities.

The Institute of International Finance (IIF) viewed risk culture as those customs that guide the behaviour of firms give them the ability to detect, comprehend, discuss, and take any action to prevent the occurrence of current and future eventualities (Institute of International Finance (IIF), 2008). Protiviti Inc. (2014) defined risk culture as firms' acceptable behaviors and attitudes toward taking and managing the risk that reflects the common values, goals, and practices that entrenched risk into a firm's decision-making process. The risk culture assists a firm to establish a balance between risk-taking capacity and reward. Some scholars believed that poor internal culture plays a key role in causing business failure and instilling good culture can enhance firm performance and prevent firm failure (Power *et al.*, 2013).

Hence, organizations that establish a strong culture is likely to promote risk-informed decisions and achieve higher firm performance (Baney, 1991; Cooper, Speh, & Downey, 2012). The influence of risk culture at all level of decision-making helps facilitate the achievement of strategic business goals (Institute of International Finance (IIF), 2009). Thus, risk culture provides an opportunity for an enterprise to maintain a competitive advantage, and by extension higher performance (Drew, 2007).

This study, therefore, defined risk culture as norms and values that determine the collective ability of employees to discuss and act in the interest of organisations; and

provide the basis for the efficient functioning of the ERM programme and the entire success of the firm.

2.5.3 Risk Management Information System

The importance of information in the management of risks cannot be overemphasized. Information management has become a critical success factor that leads to business efficiency. Management information system (MIM) refers to the development and application of information in order to help business firms to achieve strategic objectives (Al-gharaibeh & Malkawi, 2013). Firms view the implementation of Information management system to be a tactical approach that improves business productivity and raises the level of information dissemination (Kehinde & Soyebbo, 2012). This is even more important in an industry that is exposed to different types of exposures that can easily disrupt business operations. The ability to get information and ensure efficiency in information dissemination depends on the capacity of firms to process information efficiently (Gaines, Hoover, Foxx, Matuszek, & Morrison, 2007). Ability to improve the existing risk management information may explain the extent to which an organisation engages in effective ERM (Gupta, 2004).

Finance sector globally has been committing an enormous amount of resources in recent times to develop their information management systems. Technology is becoming affordable, making it easier for firms to assemble risk information data bank (Gibson, 1998). For example, in 2010, US businesses spent over \$562 billion on information systems hardware, software, and telecommunications equipment (Mohammad, 2014).

Levine (2004) contended that a number of reasons have made it necessary for firms to utilize information management facilities in order to improve its risk management capabilities and further gain competitive advantage. To implement an effective ERM, the business firm is expected to have some facilities that will facilitate risk information management. A financial institution requires data that relates to business transactions, valuation, loss data and operational data among others. In fact, the firm's information management system must provide robust reporting capability that will ensure effective identification and measurement of exposure across various business units within a firm. Gibson (1998) opined that firms operations are likely to improve with information technology in place.

The central issue regarding risk management information is to reduce the information gap between managers and shareholder relationship so that information could be readily available for effective risk management decisions (Kornkaew, 2012). The Risk management information system improves capital allocation decisions, create market discipline and reduces the cost of getting information; thereby reducing asymmetric information between insiders and outsiders (Gibson, 1998). Integration of risk management information system with ERM activity would improve firm performance (Arnold, Benford, Hampton, & Sutton, 2014). In fact, risk management information have become a treasured strategic resource that any firm can rely upon to improve its performance (Gaines *et al.*, 2007).

Again, the information system can be viewed either from technical perspectives or business perspectives (Rodriguez & Edwards, 2009a). From a technical point of view, an information system collects, stores, and disseminates information from an

organization's environment and internal operations to sustain organizational capabilities and enhance the decision-making process. From a business perspective, an information system provides a solution to a problem or challenges facing a firm and provides real economic value to the company. Gibson (1997) viewed risk management information systems as activities designed to surmount the problems associated with a collection of data across diverse business units. He further affirmed that risk management information system depends on the risk measurement methodology that a firm chooses to adopt. As such, to improve firm performance, information dissemination is expected to assist organisations to evaluate and manage business fortuities.

In a nutshell, a robust information system is a requirement for effective and efficient firm performance. Integrating risk management information system in the organisation will create the capacity to review potential losses, and facilitate risk measurement process (Rodriguez & Edwards, 2009b). In the context of this study, risk management information system is viewed as an information system that collects stores and disseminates risk information across the entire business units to support organizational functions and decision-making process.

2.5.4 Risk Knowledge Sharing

Knowledge sharing simply refers to the avenues through which an organization has access to new knowledge. Knowledge sharing is one of the areas that requires the attention of scholars and professionals within the overall domain of knowledge management (Jain, Sandhu, & Sidhu, 2007). Ramayah, Yeap, and Ignatius (2013) viewed knowledge sharing as the exchange of knowledge between one person and

another or between groups in a reciprocal process that allows knowledge to be reshaped and new knowledge to be created. Knowledge sharing can be seen as a process designed to influence the exchange of knowledge within societies or within organisations so as to improve their competitive advantage, intelligence and intellectual wealth (Rodriguez & Edwards, 2009a). Improvement in knowledge sharing increases the organisational abilities to manage fortuities.

There is a general conception that sharing and acquiring of new knowledge is fundamental for firms to achieve higher performance (Ritala, Olander, Michailova, & Husted, 2014). Dickinson (2001) asserted that knowledge play a role in reducing uncertainties and contributing effectively to formulating sound business strategies and underwriting processes. As such, for organisations to effectively manage risks, risk knowledge sharing as a knowledge management strategy is crucial to organisational success (Anthropopoulou, 2005). Casimir *et al.* (2012) viewed knowledge sharing as an extra role behavior, being a voluntary act that helps contribute to an organization's performance. While the decision to share knowledge may be an individual decision, the firm can create an environment that will encourage sharing of knowledge on certain critical issues that may positively improve firm efficiency. In support of this view, Rodriguez and Edwards (2008) saw enterprise risk management as a process that relies on the application of specific knowledge in an attempt to control possible deviations from strategic objectives, shareholders' values, and stakeholders' relationships.

Risk knowledge sharing typically enhances risk management capabilities and improve firm operating efficiency (Bayer & Maier, 2007; Horton-Bentley, 2006).

Knowledge sharing is a strategy that serves as a conduit for competitive advantage (Mentzas, Apostolou, & Young, 2003). Knowledge is one of the specific resources that is indispensable to value creation for firms (Nonaka, Toyama, & Konno, 2000). For the knowledge to influence firms' performance, it must be shared among employees. However, the shared knowledge has to be understood and integrated collectively in the organisational system (Spender & Grant, 1996). Hampton (2006) asserted that for organisations to succeed in its risk management initiative, it needs to focus on skills and knowledge sharing.

Following Rodriguez and Edwards (2009b), this study defines risk knowledge sharing as a strategy that facilitates the exchange of knowledge relating to the management of fortuities in the organisation. It encompasses all activities through which organisation exchange risk knowledge among business units. The present study argued that sharing through previous accumulated risk experience will help organisations to achieve good performance.

2.5.5 Staff Competence

Globally business firms are facing increasing stress as a result of intensive competition, rising customer demands and technological advancement (Eicker, Kochbeck, & Schuler, 2008). Thus, for companies to build a strategic advantage, they have to concentrate on staff competencies, which are significantly influenced by their skills and their knowledge (Eicker *et al.*, 2008). Competence becomes imperative in financial institutions where operations are influenced by developments in both internal and external environment (Black Sea Trade & Development Bank, n.d.). The risks confronting financial institutions are highly sophisticated that

requires the services of competent personnel. An incompetent employee may be an important source of risk to firms. Poorly trained or overworked employees may inadvertently expose an institution to operational risk (Black Sea Trade & Development Bank, n.d.). Sweeting (2011) asserted that for risk management to be effective in organisations staff needs to be sufficiently qualified to carry out certain important risk management tasks.

As such for business firms to remain competitive in the presence of global challenges, staff competence is a critical success factor that requires the attention of the management (Sweeting, 2011). Corporations are expected to pay more devotion to developing employee competence in order to acclimatize to a rapidly changing and highly turbulent environment (Hase, 2000). For a business firm to continuously advance and gain competitive advantage, staff competence is indispensable (Chich-Jen & Wang, 2010). Since ERM is everybody business, employees are expected to have basic risk knowledge that will make them more risk conscious and effective in facing organisational challenges.

The notion of competence has dominated the management science literature for the past three decades (Francoise & Winterton, 2005). It is a term that has been defined differently by different scholars. Norman (1985) defined competence as the ability of individual to perform a particular task, or a given function successfully. Heene and Sanchez (1996) defined competence as the ability to maintain and sustain asset deployment in a way that will facilitate the achievement of organisational objectives. Ozcelik and Ferman (2006) defined competence as a collection of knowledge and skills capable of influencing employee's responsibility positively in a way that can

be measured against well- accepted organisational standards. Schroeter (2008) defined competence as the ability and capability of an employee to function effectively in a given system. Staff competence focuses on one's actual performance in a work environment. Competence is the ability to integrate cognitive, affective and psychomotor skills when carrying out a task. Boyatzis (2008) defined competencies as an underlying characteristic of a person that could be a motive, trait, skill, aspect of one's self-image, social role, or a body of knowledge which he or she uses to achieve objectives. They those characteristics that enabled employees to enhance organisational performance within a real working environments.

According to Zaim *et al.* (2013), competency is viewed as a collection of a person's experiences and personality relating to job factors from both formal and informal organizational settings. It is in this conception that staff competence is viewed as critical to firm performance that several organizations use competency models as a measurement evaluation tools for staff development programs (Ozcelik & Ferman, 2006). In other words, competence is an intangible resource that either an individual or firm deploys to help achieve a given objective. It increases through the experience gathered from work, and the determination of workers to achieve organisational objectives.

A firm can use its competence to gain a competitive advantage. Sanda, Sackey, and Falholm (2011) contended that the inability of a firm to achieve efficiency in managing its resources may be a function of lack of competence or inability to utilize competence to its advantage. Competence measures the degree to which organisational members are perceived as being skillful and reliable in performing

their jobs (Dooley & Fryxell, 1999). Yaraghi and Langhe (2011) contended that employee educational skill is necessary for business organisations to understand the value relevance of risk management practices in institutions.

The strategic management school (from the perspective of resource-based view) view competence as fundamental organisational resources that could enable the firm to gain a competitive advantage if fully exploited. According to Verma and Medves (2006), competencies create a situation that leads to empowerment, accountability, and higher firm performance. Francoise and Winterton (2005) argued that a holistic typology is required for a better understanding of the concept of competence. The competence required to execute a job include conceptual and operational. By conceptual, they mean the knowledge and understanding that facilitates the achievement of individual objectives. The operational competence on the other hand simply refers to the functional psychomotor or applied skills required for a job. They also identified social competence (staff attitude and behaviours) and meta-competence (having the zeal to learning new things) which associate with employee effectiveness.

The four dimensions of competence are shown in the following Figure

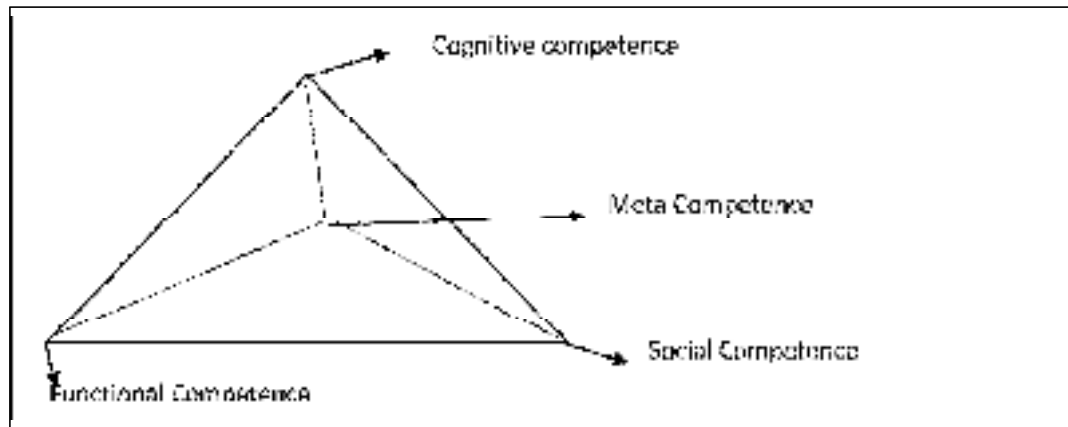


Figure 2.2

Source: Francoise and Winterson, 2005

In the competence framework proposed by Francoise and Winterton (2005), the cognitive competence relates to the employee knowledge, the functional competence explains the level of skills, the employee attitude, and behaviour is explained by the social competence and finally the meta-competence refers to the ability of an employee to learn and acquire new skills.

To underpin the importance of competence to firm's survival, Risk and Insurance Management Society (2007) reported that risk managers need to know the dynamics and operational capability of their staff. Hence, they proposed a model that consists of three skill sets that include competency skills, technical skills and conceptual skills. These three skills play a significant role in the practical implementation of the enterprise risk management programme in organisations. Organisations have to focus on the knowledge and the skills required for efficient and effective risk management decisions.

In fact, a competent employee can serve as a unique source of competitive advantage. It is believed that competence reduces uncertainties associated with decisions and its implementation (Dooley & Fryxell, 1999). Hence, a perpetual poor customer service is an indicator of skills dearth in the sector (Nweze, 2015). In this study, competence is defined as the ability and capability of an employee to conduct his work skillfully and professionally in line with organisational objectives.

2.5.6 Organizational Innovativeness

For an organisation to achieve a milestone in its risk management initiative, it requires new ideas and subscribes to the best ways of doing things (Hyrsky & Tuunanen, 1999). The concept of innovativeness can be traced to the Roger's diffusion of innovation theory (Sahin, 2006). Rogers consider innovativeness in terms of time of adoption. It is viewed as behavioral transformation that explains the extent to which a particular unit or individual adopt new ideas relatively earlier than any other unit or individual within a society or industry. Organisational innovativeness is defined as the degree to which a business firm develops and launches new ideas faster than its competitor (Hurley & Hult, 1998; Wang, Ahmed, Catherine, & Pervaiz, 2004). Weerawardena and O'Cass (2004) defined innovativeness as the use of ideas that are new to the firm to increase the value of the firm either directly or indirectly. The value could be entrenched either in the products, processes, work organization, management or marketing systems.

Innovativeness refers to a firm's receptivity and inclination to adopt new ideas that lead to better performance. In another trend, Lumpkin and Dess (1996) defined innovativeness as an organization's willingness and ability to engage in supportive

new ideas, novelties, experimentation and creative processes that may result in innovations. While Tajudin, Musa, and Musa (2012) viewed innovativeness as the acquisition, dissemination and use of new knowledge to successfully implement creative ideas within an organization.

Wang *et al.*(2004) defined organizational innovativeness as the ability of the organization to combine sound strategies and behavior to introduce new products and open new opportunities. Apparently, Innovative activities are the steps and processes that lead to the implementation of innovation (Gamal, Salah, & Elrayyes, 2011). Innovation is usually an iterative process in which the output of earlier activities becomes the input for the later process (Drucker, 1999). Innovativeness has become an important driving factor in the success or survival of many organisations (Quinn, 2000; Riivari, Anna-Maija, Kujala, & Heiskanen, 2011). A simple and comprehensive definition of innovativeness are the ones proposed by Lin, Peng and Kao (2008) who viewed innovativeness as openness to new ideas as a characteristic of an organisational culture. According to Rubera and Kirca (2012), the conceptualization of innovativeness may account for variation in determining its effects on firm performance. They identified innovativeness from different perspectives. Innovativeness can be conceptualized from the inputs perspectives that relate to research and development. It can also be viewed from the outputs perspectives which relate to the creation of new products or innovative culture, which relates to risk taking ability of the firm.

Again, studies have discovered that the most innovative organisations are those that can genuinely deal with risk, in the long run. The essence of risk management is to

seek out significant uncertainties and address them proactively (Hillson, 2005). Risk management becomes efficient in organisations if both business risks and opportunities are given due attention together. Further, for the risk management process to be effective, it must embrace innovative and creative thinking in both various aspects of risk identification process and response (Hillson, 2005). Innovativeness is one of the essential features that an organisation possesses to attain a competitive edge.

In fact, for business to survive, managers ought to perceive and manage risk in an innovative way (Hyrsky & Tuunanen, 1999). It is the ability of organisations to perceive and manage risk both in a creative and novel way that will lead to business success. Also, innovativeness is viewed as a firm propensity to engage in and support new ideas, novelty, and creative processes (Kamaruddeen, Yusof, & Said, 2010). Consistent with Lumpkin and Dess (1996), this study defined innovativeness as the willingness and ability of a firm to be opened, receptive and engage in supportive activities and creative processes in line with organisational objectives

2.5.7 Leadership Factor

Leadership is presently viewed as a major critical factor for the success of businesses, corporations and nations. This development has raised the concern of firms on getting people with requisite leadership qualities to head critical business units. As such, in every organisational settings it is important for people to get somebody that has the capacity to bind them together and represent the organisation's interests in the interaction with either internal or external stakeholders. Megginson, Mosley and Pietri (1989) viewed leadership as the art, skill

or process of manipulating people to work towards the achievement of a particular objectives. Effective leadership assists business firms to survive. It enables companies to achieve their missions. The main concern of leaders is to communicate the firms' business strategy and to convince and direct employees to be committed to organisational goals (Imamoglu, Ince, Keskin, Karakose, & Gozokara, 2015).

Thus, leadership is an essential constituent that has attracted the interest of professionals and academics. Leaders are the most prominent individuals in organisations. Leaders set the conditions for followers to carry out their duties effectively (Niskanen, 2015). Burns (1978) defined leadership as a process through which a person persuades other individuals to act according to values and beliefs. Thus, a leader is somebody who has the authority to change the mind of other individuals and get them aligned with the goals of groups, societies or companies (Kreiner & Kinicki, 2008). Leadership relates to a process through which employees that are in a position of authority influences the behaviour of other personnel with a view to achieving a predefined set of objectives (Morsing & Oswald, 2009). Asserting the importance of leadership, Plowman *et al.* (2007) argued that effective leadership possess the ability to solve problems and guide the organisations to achieve objectives by exerting some form of influence on others. This signifies the importance of leadership in creating unity of purpose among various organisational workforce which eventually leads to higher performance (Stahl, 2007).

This present study conceptualizes leadership factor as the capacity of the risk management leadership to establish direction and to stimulates other personnel toward achieving a common organisational objective.

2.6 Firm Performance

Researchers have paid considerable attention to various factors that influence firm performance. Performance is one of the major indicators that explain the level of development of any society. Recently, the challenges of the global business environment have re-echoed the need for corporate organisations to have more concerns about the success of organisations. The global business environment has forced business firms to situate their business goals toward the provision of quality services to customers. Companies are confronted with intensive competition, technological innovation, change in customer demands, and advanced methods of production (Hakkak & Ghodsi, 2015). It has further increased the ability of organisations to search and identify factors that will enable them to withstand the pressure of the dynamic economic environment. This is because successful organizations represent a critical ingredient for development (Gavrea, Ilies, & Stegorean, 2011).

Despite the high volume of research in the area, there is no universal agreement on the definition of firm performance (Al-Swidi, 2012; Johannessen, Olaisen, & Olsen, 1999). Firm performance has been viewed as one of the most important variables that attracted the attention of researchers in both finance and management literature (Gavrea *et al.*, 2011). Firm performance is a concept that explains the extent to which an organization achieves objectives. It indicates how organisations have been peering overtime (Saeidi, Sofian, Zaleha, & Abdul, 2014). Firm performance is an indicator that helps to evaluate and measure how an organization succeeds in realizing business objectives to all its stakeholders (Antony & Bhattacharyya, 2010). It is simply the firms' ability to achieve its objective through the application of

available resources in an efficient and effective manner (Asat, Maruhun, Haron, & Jaafar, 2015).

A number of studies have used different types of performance indicators to measure firm performance. For example, Murphy, Trailer and Hill (1996) identified 71 performance parameters that have been used by researchers to measure both financial and non-financial performance. In most situations, researchers use financial ratios to explain firm performance. For instance, measures such as return on investment, return on sale and return on equity are some of the commonly used parameters to measure performance (Saeidi *et al.*, 2014). Others have also used value based measures such as the stock market returns, Tobin's Q ratio to explain firm performance (Gatzert & Martin, 2013; Hoyt & Liebenberg, 2011; Tahir & Razali, 2011). Likewise, other scholars used market value added measures, such as economic value added, cash flow growth measures, dividend growth and sales growth measures (Ling, Simsek, Lubatkin, & Veiga, 2008; Uadiale, 2010).

Thus, for a more comprehensive assessment, organisations have resorted to the use of both financial and non-financial performance measures. For example, Judge, Naoumova and Koutzevoi (2003) have used both financial and non-financial indicators such as process improvements, customer satisfaction, capacity utilization and product service quality to measure firm performance. A study conducted by Hakkak and Ghodsi (2015) revealed that implementation of nonfinancial performance measures, such as balanced scorecard (BSC) in organisations has a significant positive effect on firms' competitive advantage and sustainability.

While it is significant to spot the implication of historical accounting measures, companies are encouraged to go beyond the use of historical accounting metrics to have broader criteria for measuring firms' performance. It is even more important when organisations are interested in the strategic importance of a business strategy. Hakkak and Ghodsi (2015) concluded that a performance measurement framework such as balanced scorecard (BSC) will assist agencies to realize sustainable growth and eventually improve the financial positions and market share. Studies have shown that where non-financial performance measures show a definite trend there is a high probability that the objective financial information will be positive (Coram, Mock, & Monroe, 2011).

Researchers have developed a number of performance measurement systems to fill the vacuum provided by financial performance measures. Examples of these performance measures include performance measurement matrix, (Keegan, Eiler, & Jones, 1989), BSC (Kaplan & Norton, 1996), extended performance measurement system framework (Ferreira & Otley, 2009). Among these non-financial performance measures, the BSC is the most universally accepted performance evaluation framework that has generated the attention of various scholars and professionals. Conventionally, business firms used objective financial measures to measure their ability to attain business goals and objectives. In addition to these metrics, other parameters that can be used to gauge the nonfinancial aspects of business firms were suggested (Kaplan & Norton, 1996, 2005). Kaplan and Norton (1996) argued that financial performance measures have not been efficient in explaining business performance, particularly in a competitive and turbulent

business environment. As such, they introduced BSC as a comprehensive measure that utilises both financial and non-financial performance.

BSC framework is designed to allow companies to transform their strategic business goals into measurable metrics for regular classification and understanding. BSC consists of both financial and nonfinancial measures that provide an opportunity for enterprises to monitor programme implementation across the enterprise. BSC has four major components (financial, nonfinancial [customer perspectives, internal process, learning and innovation]). The client's perspective that is meant to indicate how firms treat and handle their clients in terms of satisfaction and service delivery. The internal process aspect is expected to consider the type of business an organization engages in and how to improve service quality and acquire significant market share. The part that looks at learning, growth and innovation relates to firms' ability to provide innovative services and efficiency in resources management.

The 2008 global financial crisis have made various organisations to re-assessed and consider the role of non-financial measures. They believe that the current economic realities have created the need to consider non-financial measures as the most important factors for long-term organizational success. Thus, financial measures have failed to recognize the dynamic nature of the global business environment (Al-Swidi, 2012). Similarly, Johannessen, Olaisen and Olsen (1999) carried out an extensive review to identify the best parameters for measuring firm performance. They concluded that relying on historical financial measures may not sufficiently explain firm performance. Al-Swidi (2012) argued that historical accounting

parameters do not always explain actual performance making it difficult to predict future performance.

Based on the review of the existing literature, it is apparently clear that a definitive statement about the benefits or costs of ERM may not be possible (Kraus & Lehner, 2012). Consequently, studies have argued that ERM drives value not only in terms of financial benefits but also in non-financial terms performance measures (Gates *et al.*, 2012). Power (2009) argued that the failure of risk management might be due to an “impoverished conception of risk appetite”. Further, he maintained that ERM became lost in the procedural detail of internal control, financial regulations, and accounting systems. In this connection, Blaskovich and Taylor (2011) reported that reliance on accounting historical measures may not give a clear outcome of a risk management implementation.

Moreover, nonfinancial subjective performance metrics may have lower measurement accuracy but they focus on components that directly relates to operations that are within the control of the management (Chow & Van Der Stede, 2006). Recent scandals had revealed situations where firms engaged in unethical accounting strategies to omit relevant information about firms’ financial data (Cohen, Holder-Webb, Nath, & Wood, 2012). The nonfinancial measure offers a tool for measuring the firm performance arising from intangibles and future cash flows that are not captured by traditional accounting measures (Cohen *et al.*, 2012). Nonfinancial measures possess more explanatory power when compared with financial convention ratios (Riley, Pearson, & Trompeter, 2003).

For these reasons, firms have been encouraged to adopt one form of nonfinancial measures or the other. Hence, this study will use subjective financial and nonfinancial performance to gauge the influence of ERM on the Nigerian financial institutions. The measurement will be based on the level of the perception of a CRO regarding the firm's status (increase or decrease in performance). Thus, this study defined firm performance (financial and non-financial) as the ability of an enterprise to increase firm's earnings, achieve strategic business goals and improve managerial decisions capabilities.

2.7 Board Equity Ownership

The collapse of major business organisations in US and other economies have made board oversight function an important aspect of risk management process both in academic and professional cycles. Board of directors are expected to consider how best they can structure themselves to enable the existence of effective risk management program (Daud, Haron, & Ibrahim, 2011). The organisational structure encourage management to bring up critical risk management issues to the attention of the board and to assist them to understand how risks are interrelated. Caldwell (2012) affirmed that one of the major factors that lead to effective risk management is sound corporate governance practices of which board monitoring is an essential attribute. For business organisations to efficiently manage risk, an ERM system must be seen as a strategic policy decisions (COSO, 2004). For example, the corporate governance code of the Nigerian Security and Exchange Commission requires the board of listed corporations to oversee the establishment of a risk management framework that will enable precise definition of a company's risk policy (SEC, 2011). Support from the board of directors and top management allow

firm to get the required resources and attention for efficient implementation of ERM which may increase business performance. The board of directors are constituted to reduce the cost associated with conflict between business owners and management.

The shareholders main interest is to maximize firm value while the interest of the management is to maximize their benefits. In this circumstance, corporate governance mechanisms are usually introduced to deal with the situation and minimize the conflict. In organisations where decision makers do not bear the wealth effects of their decisions, separation of decision management and decision control restrict managers from taking actions contrary to the interests of shareholders (Fama & Jensen, 1983). A number of corporate governance attributes have been proposed to ensure the effectiveness of monitoring in solving agency problems between management and owners (Bhabra, Ferris, Sen, & Yen, 2003; Gompers, Joy, & Andrew, 2003). One of mechanisms designed to ease this agency conflict has been the granting of equity ownership to the firm's board of directors. Board equity ownership (BEO) is one of the mechanisms used by firms to improve the monitoring capacity of the board (Peasnell, Pope, & Young, 2003). Though the board delegates both management functions and decision control functions to internal managers, they retain final control over the managers through the right to ratify key operational decisions (Fama & Jensen, 1983).

Peasnell, Pope, and Young (2001) have argued that incentive through equity ownership instills some level of alignment between the interest of management and shareholders. It reduces the cost of additional monitoring and control (Peasnell *et al.*, 2003). In terms of risks, managers whose wealth is closely tied to the value of the

firm may not engage in any value destroying behaviour and will ensure equitable distribution of wealth (Jensen & Meckling, 1976). Bouwens and Verriest (2014) have argued that managers that are having equity interest take less risk because they feel the consequences of poor decision higher than other shareholders. Hence, managers with equity holding may be meticulous when it comes to risk management issues.

Therefore, equity incentives serve as a risk management strategy in organisations (Bouwens & Verriest, 2014). Apparently, equity holdings may lead board of directors to take risk mitigating strategies to protect the operating efficiency of a business organisation. Agency theorists have contended that the board of directors as important mechanism for control may decide to use its authority to safeguards investors' capital. Shareholders will prefer a board that will advise managers to undertake risky but profitable investments. Further, Ren *et al.* (2012) asserted that there is usually a risk differential between managers and shareholders which may affect any operational decision of the firm. To ensure that decisions are taken in favour of the company, firm build up an incentive alignment mechanism (equity ownership) to distort the risk orientation of managers and those of directors and induce them to work in favour of the organisation (Ren *et al.*, 2012). In a nutshell, board stock ownership could help reduce agency conflicts between managers and shareholders by alleviating agency costs, which in turn decreases risks events and increases the likelihood of business success.

Board equity ownership (BEO) is an arrangement that allows the board of directors to own some shares in a corporation (Mayer, 2001). In Nigeria, the corporate

governance code advocates for a private sector-led economy. It allows non-restrictive equity- holding to various stakeholders. Studies have argued that individuals who form part of the board of a firm and have equity interest may have a compelling interest to run the company efficiently (Hillman & Dalziel, 2003; Kwanbo & Abdul-Qadir, 2013; Lim & Mccann, 2013).

In Nigeria, several institutions have implemented equity ownership holding requirements for directors. Despite this development, CBN (2008) has raised concern about the challenges regarding board equity ownership. The fear is that too many holdings may as well lead to a different aspect of abuses. On the contrary, Booth, Cornett and Tehranian (2002) believed that when board members have considerable holdings in a company's stock (either direct holdings of stocks or options on the firm's stock); they are less likely to take actions that would reduce shareholders' wealth. In support of this view, Bhagat and Bolton (2008) asserted that board equity ownership improves the monitoring effectiveness of board members in organisations. In a study of US context, Hillman and Dalziel (2003) reported that board equity ownership serves as an inducement for board members to sacrifice personal interest in favour of long-term firm growth.

As such, drawing from the reviewed literature in this study, it is apparent that conflicting findings exist as regards the hypothesized ERM benefits. Consequently, Gordon *et al.*(2009) and Hafizuddin-Syah *et al.* (2014) suggested the use of contingent variables to explain the relationship between ERM practices and firm performance. However, it has been widely reported in the literature that board equity ownership is among the variables that better influence organizational performance

(Bhagat & Bolton, 2008; de Villiers *et al.*, 2011). According to Baron and Kenny (1986), the introduction of a moderating variable become necessary when mixed finding exist. It is, therefore, likely that in line with several studies (Albring *et al.*, 2013; Bhagat & Bolton, 2008) who argued that equity incentive increases firm performance through alignment of interest in principal-agent relationship. Thus, in an effort to achieve alignments of interest, many financial institutions have implemented equity incentive guidelines and holding requirements (CBN, 2008a). In this context, this present study argued that board equity holding there would lead to the implementation of effective risk management strategies (such as ERM) which may likely improves firm performance.

Thus, in this study, board equity ownership (BEO) is defined as a strategy that provides an opportunity for the board of directors to own a certain percentage of shares in a corporation. Also, to measure board equity ownership, the perception of top level managers were asked based on measures developed by Ammann, Oesch and Schmid (2011).

2.8 ERM Framework Implementation and Firm Performance

Numerous studies have been conducted to establish the association between ERM implementation and firm performance. There is a theoretical argument that ERM implementation is associated with higher firm performance. In the last three decades, studies had explained the role of risk management practices in improving operational efficiency of business firms. Schmit and Roth (1990) examined the effectiveness of risk management practices within the insurance industry. The study indicated that sound risk management practices reduces the cost of capital. Similarly, Simkins and

Smithson (2005) held the view that ERM reduces the volatility of cash flow and the likelihood of financial despair. Again, Lai and Samad (2011) asserted that ERM framework implementation significantly reduces the cost of financial distress and lower the cost of external financing. In fact, the advocates of ERM value relevance have argued that firms implement ERM in order to aggregate companies' risk that may affect business operations (Hoyt *et al.*, 2008).

Similarly, Hoyt and Liebenberg (2011) investigated the effects of ERM programs on firm value. The study indicated that ERM (which is determined by institutional investors and firm size), is positively related to firm value. In a study of Thailand context, Laisasikorn and Rompho (2014) assessed the effect of ERM implementation on the firms' financial performance. The results of the study indicated that the ERM program and Performance measurement have a weak positive association with firm's financial performance as proxied by return on assets (ROA), return on equity (ROE) and earnings per share (EPS).

Again, an empirical study (Tahir & Razali, 2011) established a positive but insignificant relationship between ERM and firm value. The study used Tobin's Q as a proxy to firm value along with other factors (Size, Leverage; Return on Asset, International Diversification). The findings of the study failed to support the assertion that ERM positively affects firm performance. However, the period of the research (which is one year) might have been the reasons for their inability to determine the complexities associated with ERM implementation. In a comparative review of empirical studies, Gatzert and Martin (2013) reported that company size and institutional ownership positively influenced ERM adoption and that ERM has a

positive impact on firm performance. On the contrary, the benefits of ERM is not immediate because implementing the components of ERM takes time to penetrate the organisations (Moeller, 2011).

In contrast, Gates, Nicolas and Walker (2012) examined the influence of ERM framework (based on four components of COSO) on firm performance in both US and Europe. They reported that the benefits associated with ERM adoption had led to the improvement of managerial performance. Further, they linked ERM implementation to greater management consensus and sound decision-making process. It suggests that ERM implementation framework improves the management ability to formulate sound decisions. Further, In a mixed method study of housing developers in Malaysia, Asat, Maruhun, Haron and Jaafar (2015) examined the relationship between the ERM implementation and organizational performance using the partial least square technique. The findings revealed a positive correlation between ERM implementation and firms' financial and non-financial performance.

Likewise, Bertinetti, Cavezzali and Gardenal (2013) examined the impact of ERM implementation on firm's value and to discover the determinants of ERM implementation. The study indicated a significant positive relationship between the ERM adoption and the firm value. However, the study has not used any variable that controls for market inefficiencies. These constraints could in a way affect the estimation capacity of firm's value using Tobin's Q as utilized in the study. Ghazali and Manab (2013) investigated the effect of ERM on firm value via the Malaysian Code of Corporate Governance (MCCG). The study found a positive relationship between ERM implementation and the performance of firms listed in the Malaysian stock market.

In a study of Nigerian context, Torbira and Ngerebo (2012) investigated the relationship between risk management and the performance of firms using Gross Fixed Capital Formation (GFCF) as a proxy. Their findings have shown that sound risk management practices affect the growth of the firm at least in the short run. In a related study, Obalola, Akpan and Olufemi (2014) reported a positive link between the ERM implementation and organizational performance in Nigeria. The study used contingency reserve, shareholders' fund, gross premium and net premium as ERM indicators.

However, Gordon, Loeb and Tseng (2009) revealed that the association between ERM and firm performance is relied on the appropriate match between ERM and five contingent variables (environmental uncertainty, industry competition, firm size, firm complexity, and board of directors' monitoring). In contrast, the study selected the contingent variables without clear theoretical justification. Also, McShane, Nair, and Rustambekov (2011) used the S&P ERM rating scale as a proxy for ERM quality and linked it to firm value. The study revealed a positive relationship between ERM capability and firms' value. Yet, it felt to provide evidence on the relationship between higher ERM rating and firm performance. Conversely, in a US context study, Hoyt *et al.* (2008) found a positive but insignificant relation between ERM practices and firm value. The findings indicated that ERM explains only 17 percent variation in the firm value. However, the use of ERM announcement as a proxy for ERM implementation may affect the ability of the study to gauge clearly the effect of ERM on firm value.

Baxter, Bedard, Hoitash, and Yezegel (2013) examined the factors that relate to high-quality ERM programs in financial services firms, and whether ERM quality enhances firm performance. Building on the ERM quality rating of financial companies by Standard & Poor's, the study found that higher ERM quality score is related to greater complexity, less resource constraint, and better corporate governance practices. The study also establishes a positive association between ERM quality rating and higher performance of a firm. On the overall, the study revealed that firm performance is enhanced through a control system that integrates risk management efforts across the company, enabling better oversight function, efficient managers' risk-taking behaviour, and aligning of action with the strategic business goals. Similarly, Yow and Sherris (2008) claimed that ERM implementation reduces the effect of earning frictional volatility cost on organisations.

On the contrary, some researchers have questioned the theoretical benefits of ERM implementation. For example, Mikes and Kaplan (2014) affirmed that ERM has become an essential element of the modern business environment with principles, guidelines, and standards. Despite the level of acceptance among world business leaders, the value relevance of this important concept is still debatable. In their study, Mikes and Kaplan (2014) claimed that the relationship between ERM implementation and firm performance have been mixed and inconclusive. It merely indicates the inability of scholars to identify a suitable framework that quickly captures the effects of ERM implementation. In a US context study, Ballantyne (2013) found that ERM implementation is not related to the financial performance of firms and that the implementation of ERM alone is not a sufficient condition for accomplish the hypothesized assertions of ERM as highlighted in the literature.

Conversely, in a Malaysian context study, Nickmanesh, Zohoori, Musram and Akbari (2013) carried out a study to investigate the influence of ERM on firm performance. Their results indicated that the number of independent non-executive members and the size of the risk management committee have significant positive impact on return on asset. Also, board size and number of independent non-executive directors were seen to have active and meaningful impacts on Turnover. On the overall, the study has revealed a significant but negative relationship between the existence of the risk management committee and return on asset.

Similarly, in an American context study that specifically focused on U.S. insurance sector, Lin *et al.* (2012a) indicated a strong negative relationship between ERM practices and firm value. In a related study, Hafizuddin-Syah, Abdul-Hamid, Janor and Yatim (2014) carried out a study using a sample size of 26 technology firms in Malaysia. The results of their study have shown that the implementation of ERM is negatively related to firm performance at 10 percent significant level. They supported the assumption that high implementation cost might have been the reason for the negative relationship between ERM and firm performance.

Studies have offered a different explanation as regard the inability of some studies to confirm the theoretical postulations of ERM. For example, studies have used the appointment of CRO as a surrogate for ERM adoption in organisations (Beasley *et al.*, 2008; Hoyt & Liebenberg, 2011; Pagach & Warr, 2011). Likewise McShane, Cox and Butler (2010) and Baxter, Bedard, Hoitash and Yezegel (2013) used the S&P's ERM rating to measure the relationship between ERM and firm performance.

While Gordon *et al.*(2009) developed ERM index to estimate the relationship between ERM and firm performance. To identify the presence of ERM practices, Hutchison and Ngoc (2012) examined the relationship between risk management committees and firm performance. The study indicated a positive relationship between the risk management committee and firm financial performance. They used the existence of risk management committee as a signal to ERM implementation. Again, Pooser and McCullough (2012) used Standard and Poor's Ratings to examine whether S&P rating leads to better performance. Findings from the study revealed that firms with higher ERM S&P rating on the average experienced fewer shocks and better performance.

Likewise, Hafizuddin-Syah *et al.* (2014) used a dummy variable for ERM to examine its effect on firm performance. Examining the utilization of the use of dummy variable as a proxy for ERM, Baxter, Bedard, Hoitash, and Yezegel (2013) provided strong evidence to confirm the laxity of these constructs to explain the relationship between ERM and firm performance. Citing an example with S&P ERM rating, they argued that equity market does not find S&P ERM score useful in explaining the relationship between the S&P rating and stock market performance.

A thorough review conducted by Abdullah *et al.* (2012) focused on the determinants of ERM adoption and its impact on firm performance concluded that ERM practices are sparse due to the lack of risk management knowledge among entities in the organization. In another related study, Fadun (2013) reported that majority of firms in Nigeria do not understand the concept of ERM; thus, it is not widely adopted in the country. He further asserted that it is the responsibility of the board to facilitate

its adoption in Nigeria. COSO commissioned a study at North Carolina State University conducted by Beasley, Branson and Hancock (2010). The objective of the study was to understand the level of development concerning ERM initiative in organisations. They reported that ERM implementation in some organization was underdeveloped and immature; because only 28 percent of respondent described ERM implementation as robust and systematic. Ballantyne (2013) maintained that since there are relatively few empirical studies that examined the benefits of ERM adoption further studies in the area could be helpful to understand ERM's capacity to drive firm performance.

Based on the above theoretical discussion, it is apparent that the majority of studies that used dummy variables to gauge the effect of ERM on the firm value felt to support the value relevance assertion of ERM. It justifies the need to examine further the ERM effect through a survey approach that will enable the researcher to have a comprehensive view of ERM implementation in the organisation. Again, there seemed to be a paucity of studies on ERM, particularly in developing economies. The situation is even worst in the case of Africa as a continent. Therefore, Nigeria being the largest economy in Africa is in dire need of such research efforts. Furthermore, the majority of studies in ERM concentrates more on financial aspects (using Tobin's Q as a proxy for firm value) relegating the non-financial performance measures. Though few studies have examined, the significance of ERM on non-financial performance (Asat *et al.*, 2015; Gates *et al.*, 2012), suggesting the need to carry out more studies in these areas to appreciate the value relevance of ERM. Hence, this suggests the need for more ERM studies to enhance the ERM literature stream.

Table 2.2

Summary of Empirical Literature on ERM

S/No	Author/Year	ERM Measurement	Findings
1	Schmit and Roth (1990)	Mean scoring based on risk identification, retention and evaluation	ERM lowers the cost associated with high levels of retention particularly for less risky firms
2	Beasley, Pagach and Warr (2008)	CRO appointment as proxy to ERM implementation	For nonfinancial firms, announcement period returns are positively associated with firm size and the volatility of prior periods' reported earnings however, for financial firms there are fewer statistical associations between ERM announcement and firm's returns. These results suggest that the costs and benefits of ERM are firm-specific.
3	Yow and Sherris (2008)	Optimal strategies based of Enterprise value added (EVA)	Risk management reduces the volatility of financial performance and can have a significant impact on firm value maximization by reducing the impact of frictional costs.
4	Hoyt, Moore, and Liebenberg (2008)	Use of dummy based on ERM announcement of CRO	The study found a positive relationship firm values and the use of ERM. ERM premium is statistically and economically significant and approximately 17 percent of firm value
5	Gordon, Loeb and Tseng (2009)	ERM index	The study revealed that ERM influence firm performance based on the appropriate match between ERM and other contextual variables
6	Beasley, Branson and Hancock (2010)	Corporate governance variables	The study revealed that risk oversight function by boards of directors, chief executive officers, and audit committees improves risk monitoring process and lead to high firm performance
7	Manab, Kassim and Hussin (2010)	Based 14 Enterprise wide risk management programs	EWRM implementation ensured survival of the companies and value creation
8	Lai and Samad (2011)	14 element ERM Framework	The study revealed that ERM implementation reduces the cost of financial distress, lower external financing cost, improve firm's credit rating, increase equity market reward and reduces agency problem.

Table 2. 2 (Table Continued)

S/No	Author/Year	ERM Measurement	Findings
9	McShane, Nair and Rustambekov (2011)	Standard and poor's newly available risk management rating	The authors revealed a positive relationship between increasing levels of ERM capability and firm value but no additional increase in value for firms achieving a higher ERM rating
10	Hoyt and Liebenberg (2011)	ERM as a dummy variable	The study found a positive relation between firm value and the use of ERM. The ERM premium of roughly 20 percent is statistically and economically significant.
11	Tahir and Razali (2011)	ERM as a dummy variable	Empirical results report that ERM is positively related to firm value but it is not significant.
12	Lin, Wen, and Yu (2012)	ERM implementation announcement	We also observe ERM lowers insurers' firms' value, suggesting no value enhancement from ERM implementation.
13	Gates, Nicolas, and Walker (2012)	ERM implementation based on 5 components of COSO	The study discovered that ERM implementation lead to enhancement of managerial decisions, enhanced communication of risk taking, and greater management accountability which in turn improve performance.
14	Pooser and Mccullough (2012)	S&P ERM rating	The study revealed that firms with an ERM rating experience fewer shocks and better performance in the variables that underlie shocks
15	Baxter, Bedard, Hoitash and Yezegel (2013)	S&P ERM quality ratings as part of its credit rating analysis	The study indicated that ERM quality is positively associated with operating firm performance.
16	Ballantyne (2013)	COSO framework	The study revealed that ERM implementation is not associated with financial performance of firms that ERM alone is not sufficient to achieve the financial benefits hypothesized in the ERM literature
17	Nickmanesh <i>et al.</i> (2013)	Existence and size of risk management committee	The study found a significant but negative relationship between ERM proxies and return on assets
18	Bertinetti, Cavezzali and Gardenal (2013)	ERM implementation a dummy variable based on CRO disclosure	The study finds a positive and statistically significant relation between ERM adoption and firm value.
19	Manab and Ghazali (2013)	Corporate governance codes	The findings show that return on equity, opacity, debt over asset, operating margin, cost of financing and taxation, and financial slack are significant for financial companies that implemented ERM
20	Hafizuddin-Syah, Abdul-Hamid, Janor and Yatim (2014)	ERM implementation announcement based on dummy	The study revealed that the implementation of ERM is negatively related to firm performance at 10 percent significant level.

Table 2.2 (Table Continued)

S/No	Author/Year	ERM Measurement	Findings
21	Obalola, Akpan and Olufemi (2014)	Contingency reserve, shareholders' fund, gross premium and net premium were used as dummies for ERM indicators	The study revealed a joint cause relationship among ERM variables and organizational performance though, individual relationship of the indicators differ.
22	Asat, Maruhun, Haron and Jaafar (2015)	Based on eight dimensions of COSO framework	The study results indicated that ERM implementation has positive significance effect on the companies' financial and non-financial performance.
23	Laisasikorn and Rompho (2014)	Based on 4 COSO ERM components	The study indicated that ERM have a weak positive relationship with the financial performance of firm as measured by return on assets (ROA), return on equity (ROE) and earnings per share (EPS).

2.9 ERM Success Factors and Firm Performance

Studies have examined a number of factors that examined a number of risk management success factors (Carey, 2001; Grabowski & Roberts, 1999; Ranong & Phuenngam, 2009). Specifically, Zhao, Hwang, and Low (2013) investigated 16 ERM success factors as determinants of ERM implementation in Chinese construction firms in Singapore. Among the highly rated ERM success factors that influence ERM implementation include board commitment, risk ownership, risk aware culture, sufficient resources, risk identification, analysis and response, risk communication and risk integration. It is important to note that the objective of majority of these studies was to examine the success factors as determinant of ERM implementation.

However, few studies have examined the relationship between ERM success factors as determinant of firm value. For example, Manab, Kassim and Hussin (2010) reported that success factors such as corporate governance, compliance, resources and cross-functional staffing had encouraged organisations to adopt ERM which eventually improves firm value. In an exploratory study in Iraq, Mahmoud and

Ahmed (2014) investigated the relationship between factors that improve risk management effectiveness and firm performance. Out of the 30 respondents that participated in the study, 48% believed that top management support and training as factors that improve firm performance, 30% reported that technological capabilities is an important risk management factor that improves firm performance. The following sections provides empirical evidence on the relationship between ERM success Factors and Firm Performance.

2.9.1 Compliance and Firm Performance

Again, a global world survey of 1400 CEOs conducted in the first quarter of 2003 by PricewaterhouseCoopers confirmed the positive relationships between compliance with regulatory provisions and high firm performance (PricewaterhouseCoopers, 2004). Hence, compliance is considered an essential ingredient for ERM to achieve firm performance. Similarly, Alves and Mendes (2001) indicated that compliance with the provisions of Portuguese Securities Market Commission led financial institutions to achieve a positive firm's abnormal returns. Ammann, Oesch and Schmid (2011) investigated the 64 individual governance attributes (including compliance) on firm performance. The study established a positive relationship between compliance, ownership structure and firm performance. Likewise, Abiola and Ojo (2012) examined the opinion of stakeholders on the relationship between compliance with regulatory financial reporting requirements of primary mortgage institutions and the performance of the mortgage firms. The study revealed that compliance has positive influence on the performance of primary mortgage institutions in Nigeria. In addition, Steinberg (2011) asserted that best business practices must go beyond compliance. Business objectives and strategies are implemented based on preferences, value-laden, and management styles. As such, commitment to best

business practices encourages firms to comply with regulatory provisions which are likely to influence firm performance.

Conversely, some scholars give more emphasis on the nature of the provisions as some regulations are flexible while some are rigid. For example, in a cross country study, Beltratti and Stulz (2009) indicated that financial institutions with more regulatory restrictions perform better during the 2007/2008 global financial crisis. On the contrary, Levine (2010) contended that empirical evidence has shown that excessive compliance with financial sector policies precipitated the 2006 financial crisis. Accordingly, the financial sector collapses either due to laxity on the part of the regulatory agencies to control the excessive risk taking behaviours of financial institutions or by encouraging policies that destabilize the system. It can, therefore, be inferred that sound regulatory provisions may improve the performance of financial institutions. Similarly, Doran and Ryan (2012) revealed that regulatory compliance and customer perception may help improve firm performance. The study concludes that sound regulatory provisions can help stimulate eco-innovation.

In Nigeria, there is no clear evidence as to the level of compliance with corporate governance and risk management among both financial and non-financial firms (Akinkoye & Olasanmi, 2014). The 2009 stock market crash exposed the non-compliance attitudes of some microfinance companies as they were reported to engage in fraudulent business transactions. CBN (2010) reported that lack of effective coordination among the financial system regulators prevented the CBN from having a comprehensive consolidated picture of its regulatory activities. The report further indicated that the fraudulent activities of these institutions went

unnoticed due to inadequate regulatory provisions. While the 2004 financial sector consolidation of banks increased the lending capacity of banks, some banks engaged in non-lending activities, such as stock market investments and a substantial part of the resources invested were hived off to subsidiaries outside the purview of CBN. Hence, lack of compliance and poor monitoring has undermined the operational capabilities of these institutions. Berenbeim (2004) opined that compliance is an essential component of ERM; as such an effective ERM implementation requires a strong reinforcement of compliance systems.

Another important aspect of compliance relates to whether a firm is committed to compliance because of positive effects or to avoid sanctions. It is argued that firms that get induced to comply with certain regulatory provisions may not have complete confidence in the content of those policies/laws but they complied either because of positive expectations or just avoid some specific sanctions. According to Gozman and Currie (2015), the aftermath of the 2008 financial meltdown had forced some financial firms to meet up with some regulatory provisions at the detriment of quality strategies and a more comprehensive approach to compliance.

2.9.2 Risk Culture and Firm Performance

Since then, studies have continued to examine the influence of organisational culture on the success of business firms. In fact, culture is a component that holds an organisation, strengthen the relationship among its units; and reflect the norms that spur the stability and future success of firms (Cameron & Quinn, 2011).

One of the major challenges of the financial firm is to ensure that sound risk culture is embedded in its business strategies and objectives (EY Global Limited, 2014).

Consistent with this, Cameron and Quinn (2011) asserted that corporate culture is among the most central competitive factors that organisations possess. It is difficult if not impossible to name even a single highly successful company that does not have a unique, readily visible organisational culture.

Kimbrough and Compton (2009) indicated that organizational culture positively influences ERM adoption, effectiveness, and speed. In line with this position, Roslan and Dahan (2013) supported the view that it may be hard for firms to succeed in ERM initiative without entrenching a sound risk culture into their operations. Similarly, the results of a joint survey (Risk Management Association/Protiviti Inc) revealed that risk culture is a key challenge to improving risk management practices and firm performance particularly in financial institutions (Protiviti Inc., 2014). In the same study, 55 percent of respondents believed that risk culture is only an element of the risk management work stream and not an integral part of business strategies and objectives. Similarly, a study by Aksoy, Apak, Eren and Korkmaz (2014) in Turkey examined the influence of organizational culture and organizational learning on firm performance. Using a total of 80 participants, the study revealed that organizational culture components have strong effect on organization's efficiency and performance. It can, therefore, be inferred that considering risk culture as a stand-alone appendage that focuses only on risk management function may not improve business performance.

In another study, Sorensen (2002) revealed that while it is indisputable that firm culture influences performance, the effect of culture on firms to some extent depends on the nature of the environment. Firms with strong culture may experience higher

performance depending on the level of stability of the environment. It is reasonable to argue that the ability of a firm to adapt to the environmental turbulence largely depends on its culture. Sorensen maintained that a strong culture originated from employee engagement and motivation. It is an acknowledged fact among industry leaders that lack of sound business culture led to excessive and uncontrolled risk-taking and a complete loss of focus on the part of some financial firms (Power *et al.*, 2013). Similarly, several studies (Chan, Shaffer, & Snape, 2004; Ngo & Loi, 2008) have provided evidence to believe that culture positively influences firm performance.

Likewise, in a Pakistan context study, Ehtesham, Muhammad and Muhammad (2011) reported a significant relationship between organisational culture dimensions and the performance management system. The study emphasized the complementary relationship between culture and the performance management system. In a conceptual paper, Rose, Kumar, Abdullah and Ling (2008) argued that firms' culture continuously strengthen the imperatives for organizational change efforts, in sustaining higher firm performance. They argued that organizational culture provides the avenue for a harmonious relationship between the different segments of the organisation.

Despite the claim that culture is relevant to the organisational success, some studies have a different view concerning the role culture plays in the organisation. Davidson (2003) explored the relationship between the organisational culture dimensions and financial performance of a South African investment bank. The study did not find a significant association between some of the organisational culture dimensions (such

as team orientation, agreement, customer focus and vision) and firm performance. However, the organisational culture dimension of consistency traits was found to be correlated with firm performance. However, the inability of the study to establish the relationship between organisational culture and firm performance may be related to a number of reasons as the study suffered some methodological deficiencies. For example, the study used individual units (469 employees of banking institutions) of analysis to assess organisational variables. The inappropriate use of the right respondents may be the reason why the study was unable to establish significant relationship between culture and firm performance.

Likewise, De Caluwe and Dooren (2013) opined that organisational culture has no significant effect on firm performance. In the same way, Uzokurt, Kumar, Kimzan, and Eminoglu (2013) examined the mediating role of innovation on the relationship between organizational culture and firm performance. Using a data from 154 branches of ten major banks in Turkey, the study indicated that although organizational culture has a positive impact on the firm performance dimensions, the regression coefficient of organisational culture was found to be weak. However, the study used four dimensions of organisational culture (cooperativeness, innovativeness, consistency, and effectiveness) which may justify why the regression coefficient may be weak due to small sample size.

Thus, given the inconsistencies in the literature, it is clear that culture is an ambiguous construct that needs further investigation. As such, this present study examined culture by focusing on those norms and values that encourage risk management practices.

2.9.3 Risk Management Information System and Firm Performance

In a study that focused on financial services, Rodriguez and Edwards (2009) contended that sound risk information management would enable the organisation to appreciate the value relevance of ERM. Hence, for a firm to easily monitor and make informed risk management decisions, risk management information is inevitable. Chee (2011) contended that for companies to make a useful decision regarding risk exposures, they need to have a sound risk management information system in place. Chee noted that a good information management will avail the organisation an opportunity to carry out in-depth analysis and to produce reports that can serve the different needs of stakeholders both for internal and external consumptions.

Laudon and Laudon (2012) believed that for organisations to have good information management there is a need for standard operating procedures, workflows, and organisational system. Although organisations have diverse information needs, they all struggle for competitive gain through continuous improvement of their information system (Chaffey & Wood, 2005). As such, ERM information system facilitates and develops superior risk management process, policies, and methodologies; which will improve firm performance (Rodriguez & Edwards, 2009b). It facilitates the alignment of ERM goals with organizations' strategies (Robert & Krishna, 2007).

Hashim, Yousaf, Jehangir, Khan, and Hadi (2012) used descriptive analysis to study the link between management information system and firm performance in Pakistan. The study revealed a significant positive connection between the management information system and the efficiency of the organisations. A similar study in Jordan

(Al-gharaibeh & Malkawi, 2013) examined the effects of management information systems (MIS) on the performance of governmental organizations. The study established that the management information system has a significant positive impact on firm performance. Altaany (2013) used a sample of 100 staff members to examine the influence of the management information system on performance. The study revealed that management information has positive effects on the performance of municipalities in northern Jordan. Given the fact that information system either directly or indirectly influences firm performance, it is possible that it will further strengthen the efficiency and effectiveness of the risk management programme of an organisation.

In a Nigerian context study, Kehinde and Soyebo (2012) investigated the influence of information management on the firm performance of banks. The result of the study indicated that information management significantly influence bank performance. Though the study utilized a non-probability sampling technique to select the study sample, it has established that banks that have robust information system have created a niche for themselves. Similarly, a study conducted in Canada by Quon, Zeghal, and Maingot (2012) indicated a positive relationship between the information management system and firm performance. Again, Drawing from resource based view, Ravichandran, Lertwongsatien and Lertwongsatien (2005) examined the link between information system and firm performance using capabilities as a mediating variable. Using a sample of 129 firms in the USA, the study revealed that management information system has a strong positive relationship to firm performance.

In fact, information management system is viewed as an effective weapon for competition. Without adequate information, the ability of a firm to allocate resources and establish database for effective management of risk will be a very difficult task. In fact, there are potentially significant social and economic benefits of using and making the best use of information risk management (National Archives, 2008). Aligning ERM programme with a core business strategy in an environment of consolidated and well-integrated information system can better respond to market uncertainties and manage the firms' opportunities. Therefore, the study argued that risk information management is a critical resource for improving firm performance. Another important determinants of ERM that may influence firm performance is risk knowledge sharing.

2.9.4 Risk Knowledge Sharing and Firm Performance

There is argument as to what aspect of knowledge sharing should organisations concentrate on. Knowledge sharing may be internal within an organisation or external between organisations. Either of the two may be beneficial to business performance. However, Ritala, Olander, Michailova and Husted (2014) empirically examined the effects of external knowledge sharing on firm performance based on a survey of 150 Finnish technology-intensive firms. The study revealed that external knowledge sharing positively influence firm performance. The study further argued that though external knowledge sharing positively influence firm performance, organisations must be cautious to prevent accidental leakages that may undermine business secretes. On the other hand, sharing of knowledge within an organisation internally may enhance synergy and create opportunities for better performance.

Internal knowledge sharing can lead to sustainable competitive gain for the firm (Casimir *et al.*, 2012).

The fundamental problem faced by organizations relates to lack of desire from employees to share their knowledge with other members of the organization (Casimir *et al.*, 2012). Information availability may either decrease or increase risk exposures. Sometimes information are used as avenues for overcoming business challenge. In fact, the sharing of relevant information related to risk is one of the primary purposes of risk management systems (Kirsch, Hine, & Maybury, 2015). Information sharing internally is crucial in any financial institution and it helps firms to achieve business success. Hsu (2008) examined the relationship between organizational knowledge sharing and firm performance using 256 companies from Taiwan. The study revealed that knowledge sharing positively improve firm performance.

Liao, Ma, Lee and Ke (2011) contended that sharing information improves the operational efficiency of banks and lead to better performance. Consistent with this, Wang, Wang and Liang (2014) investigated the impact of knowledge sharing (KS) on firm performance. The study revealed that the influence of knowledge sharing on firm performance is mediated by intellectual capital. A similar finding was reported by Rehman, Baloch, Afeef and Saleem (2015), who examined the effect of information sharing and risk management on banks performance in Pakistan. Using top managers as respondents the study reported that information sharing has a positive significant effect on the financial performance of banks. It is reasonable to

argue that sound organisational structure that encourages risk information sharing will have a positive impact on performance.

On the contrary, Yam and Chan (2015) examine the influence of knowledge sharing on a business opportunity. Using an online questionnaire survey, the study discovered that knowledge sharing among committed business partners destroys, rather than creates business opportunity. Hence, external knowledge sharing requires commitment and trust among business partners. However, Hora and Klassen (2013) used a field experiment to examine the influence of organizational factors that encourage risk managers to acquire and share knowledge. Operational similarity and effective leadership significantly influenced the risk manager's possibility of acquiring knowledge about possible sources that caused another firm's failure. They suggested the need for organizational systems that encourage and enhance knowledge acquisition and sharing.

Hartono and Sheng (2015) asserted that some firms used social networking as a strategy for sharing knowledge within the organisation. They argued that technological advancement has made more than 70 percent of organisations to use social networking to communicate with customers and partners. It encourages employees to transfer knowledge across different departments and units. Risks knowledge sharing among employees, customers, and the media may help firms to control the large scale of risks that may have huge severity to its operations.

2.9.5 Staff Competence and Firm Performance

A number of studies have been carried out to examine the connection of competence both to employee performance and to firm performance. For example, Dooley and Fryxell (1999) reported that the competence of a team member has significant positive effect on team's ability to make a good decision. Ismail and Abidin (2010) examined the influence of staff competence on their performance based on a sample 1136 employees of different cadre in Malaysia from the private service sector. The study findings indicated that employee competence has significant effects on their performance. Though the study focuses on the workers performance, it can be assumed that the performance of an organisation largely depends on the capacity of its workforce.

Another study conducted by Long and Ismail (2011) examined the influence of competencies of human resource in the context of Malaysian manufacturing industry. The study indicated that competencies (such as strategic contribution, business knowledge) significantly influence performance. The finding is congruent to Amenta and Ramsey (2010), who reported that staff competence significantly influences the effectiveness of a firm. In the same vain, Yaraghi and Langhe (2011) reported a significant positive relationship between staff competence and firm's performance. Also, a study by Ekrot, Kock, and Gemünden (2016) established a positive relationship between project manager's competencies and average success of a project. The study further established the importance of meta-competence in establishing a formal lesson learned system.

Ryan, Emmerling, and Spencer (2009) examined the relevance of competencies dimensions on firm performance. The study findings was based on an interview conducted with 47 managers from European countries. The results of the study indicated that staff competencies relating to achievement orientation and team leadership positively influence firm performance. The standard used for client ratings of performance did not provide a clearer picture of the value of competencies on higher firm performance. Likewise, Zaim, Yasar, and Unal (2013) analyzed the influence of staff competencies on the performance of services industries in Turkey. Using 2679 employees in 30 companies, the study revealed a positive relationship between competencies and firm performance. In a qualitative study, John and Ackah (2015) examined the association between staff competence and firm's performance. The study utilized 280 respondents from pharmaceutical industry in Ghana. The result of the study indicated a positive relationship between staff competence and firm's performance. Since the study utilized interview, the findings of the study cannot be generalized.

Hsu (2008) examined the relationship between employee competencies and firm performance using 256 companies from Taiwan. The study also discovered that employee competencies positively improve firm performance. However, the study suffered some methodological problem as the study relied on a database to sample the respondents. The researchers did not ascertain the quality of the respondent given the fact that Taiwan business associates has long tradition of business connections and favouritism, hence managers that are not competent to be included in the data base may be included due to one form of connections or the other. Laguna, Wiechetek and Talik (2012) reported a similar finding that specific managerial

competencies enhance business success. Though the study focused on small and medium size companies, it further established the relevance of competence regardless of the size and nature of the firm.

Perez-Lopez and Alegre (2012) assessed the relationship between information management competence and firm performance. The study utilized data from 162 managers and used a structural equation modeling to assess the connection between competence in information management, knowledge management processes and firm performance. The study revealed that employee competence in information management significantly influence firm performance. The study concludes that employee competence in information management is a critical factor to achieving high competitive advantage. In another context, Ssekakubo, Ndiwalana, and Lwanga (2014) examined the relationship between managerial competence and the performance of savings credit cooperatives in Uganda. The study revealed a positive relationship between managerial competence and firm performance. Though the study indicated that competence improves firm performance the focus is on the managerial competence and not on staff competence.

Conversely, Sanda, Sackey, and Falholm (2011) conducted a study in Ghana to examine the influence of managerial competence on firm performance. Using a data from 72 top executives of small firms, the study revealed that the managers of small firms in Ghana possess the managerial competences to enhance firm performance. The study further indicated that the managers were unable to translate their competence to enhance firm performance. This may be attributed to poor enabling environment as no matter competent a manager is he needs the enabling environment

to perform. Again, the study focus on small and medium enterprises as against financial institutions that requires sophistication and sound environment to achieve result. Ainon (as cited in Ismail & Abidin, 2010) believed that there are people with high-level competence that usually exhibit poor or low performance. Hence, other factors apart from competence may influence firm performance.

In a service-driven industry such as finance, staff competency directly relates to higher firm performance. Despite the increasing propensity in the conception of staff competence in increasing performance, staff competence as a risk management success factor has received little attention. Though employee competence is difficult to measure, it is key to the to the achievement of higher firm performance (Liu, Ruan, & Xu, 2005; Vakola, Soderquist, & Prastacos, 2007).

2.9.6 Organisational Innovativeness and Firm Performance

For business organisations to achieve a milestone in its risk management practices, it requires to subscribe to new ideas and identified the best ways of doing things (Hyrsky & Tuunanen, 1999). As such innovativeness influence the internal and external commitments of business firms. Therefore, innovativeness is related positively to organisational success (Baregheh, Rowley, & Sambrook, 2009). Though Damanpour and Evan (1990) found no significant difference in the performance of firms with different level of innovativeness. According to Barlet, Duguet and Pradel (2000), it is possible for innovativeness to have a different effect because of inertia. They argued that innovativeness may have an inertia effect which is interpreted as the greater the novelty, the higher the risk associated with the innovations.

Similarly, Subramanian and Nilakanta (1996) examined the relationships between innovativeness of firms and performance. The study used a uni-dimensional construct to explain the relationship between innovativeness and firm performance. They asserted that innovativeness does improve firm performance. Again, Lin and Chen (2007) examined the innovation practices of small enterprises in Taiwan using a sample of 877 firms. The study revealed that innovation has a positive but insignificant connection with firm performance. Similarly, Suliyanto and Rahab (2012) formulated a structural analysis to explain the influence of innovativeness as a critical success factor to the effectiveness of technology-intensive firms. The results of the study indicated that innovativeness has a significant effect on performance.

Likewise, Mbizi, Hove, Thondhlana and Kakava (2013) examined the relationship between innovativeness and the sustainability of small enterprises in the manufacturing industry. The findings of their study indicated that innovativeness is one major attribute that aid firms to remain competitive. A recent research effort in the Thailand context (Zumitzavan & Udchachone, 2014) examined the relationship between styles, organizational innovation, and firm performance. The findings indicated that organizational innovation has a significant effect on firm performance. Further, a survey study (Tajeddini, 2016) based on responses from 127 senior level managers revealed a significant positive relationship between innovativeness and firm performance.

Scott and Bruce (1994) reported that previous studies have often used innovativeness as a uni-dimensional construct that put together some elements in terms of idea

generation and application. Similarly, Raminta-Pucetaite (2014) used organizational innovativeness as a one-dimensional construct to examine the effect of leadership on organizational innovativeness. On the other hand, Wang *et al.* (2004) asserted the multidimensional nature of organizational innovativeness as an effective way of measuring innovativeness. Their study used five dimensions to investigate the influence of innovativeness to firm performance. They included product innovation, market innovativeness, process innovativeness, behavioural innovativeness and strategy innovativeness. Innovativeness shows that firm's propensity to engage in and support new ideas and novelty may result in new products, services, or technological processes and development (Kamaruddeen *et al.*, 2010).

Openness to new ideas is the real reasons for innovativeness and putting in a place mechanism that will promote and generates new ideas for business firms to prosper. Service firms need to be innovative to keep ahead of a fast changing customer needs and sustain a competitive advantage (Agarwal, Erramilli, & Dev, 2003). Scholars have shown that innovativeness results in higher business performance particularly on issues relating to managerial effectiveness (Che-Ha, Mavondo, & Mohd-Said, 2014; Damapour, 1996). Based on these positive outcomes, it is suggested that organizational innovativeness is expected to improve ERM processes and impact positively on firm performance.

Further, the Economist Intelligence Unit (2014) asserted that the capacity of risk management to improve business performance depends on the firm's innovative capacity. In an innovation study, Tan (2001) reported that innovative managers perform better than less innovative managers. Thus, given the value relevance of

ERM to firms, innovative capabilities may increase firm's capacity to identify business opportunities and drive in a risky business environment. In particular, the ability to get a better relationship between ERM and firm performance will be higher for more innovative firms than less innovative firms. ERM is expected to improve firm performance and make it responsive to future uncertainties due to the innovative capabilities of organisations (The Economist Intelligence Unit, 2014).

2.9.7 Leadership Factor and firm Performance

As such, the role of leaders in the implementation of ERM initiative cannot be exaggerated. Top leadership support is desirable to get the correct motivation, resources and devotion for ERM adoption in organisations (Frigo & Anderson, 2011a). In fact, advocates of the comprehensive risk management systems concurred that firms need effective leadership to ensure the success of ERM. There is no agreement among scholars concerning the best way to implement ERM. However, Liebenberg and Hoyt (2003) argued that getting a single individual (Chief Risk Officer [CRO]) to manage risk will be more efficient than a group (committee). They contended that CRO possesses the necessary communication skills to stimulate and drive the programme to the satisfaction of the BODs and other stakeholders. Moreover, the creation of CRO makes it possible for the BOD to hold the management accountable whenever something goes wrong. Yazid, Hussin and Daud (2011) investigated ERM implementation among the government own companies by focusing on the role of CRO and BOD on the level of implementation. The study indicated that both the CRO and the BOD roles have a significant positive relationship on the level of ERM implementation.

Puni, Ofei, Okoe and (2014) reported that leadership role improves firm performance depending on the type and nature of leadership style organisations adopt as well as the enabling environment. Scholars have established a link between organisational performance and leadership roles. There are different types of leadership style. The two most common leadership style in the literature are transactional and transformational leadership. Transactional leadership simply refers to those leaders that have the capacity to guide and motivate employees in line with organizational objectives (Robbins, 2003). These are types of leaders who ensure an effective reward system in an exchanged based relationship. On the other hand, the transformational leader adopts a participative strategy and delegate responsibilities and support followers to be creative and productive. Feinberg, Ostroff and Burke (2005) indicated that transformational leaders stimulate and encourage cooperative decision making and problem-solving. Given the fact that ERM is a holistic approach to risk management that requires the effort of each and every organisational member, these two types of leadership may help organisations to achieve higher performance by increasing the value of the firm.

Ozsahin, Zehir and Acar (2011) carried out a study to identify firms that survived the economic crises of 1994, 1999 and 2001 in Turkey. The study discovered that all those firms that succeeded within the period have a common leadership style. Thus, the study concluded that there is a positive relationship between leadership role and firm performance. Similarly, Garciaa-Morales, Jimenez-Barrionuevo and Gutierrez-Gutierrez (2012) analyzed the effect of a transformational leader on firm performance through the capabilities of the firm. The study revealed a positive relationship between leadership role and firm performance. A Malaysian context

study (Aziz, Abdullah, Anas, & Mahmood, 2013) investigated the influence of leadership styles on the performance of the small business in Malaysia. The study though focuses on small and medium enterprises, it indicated that two major types of leadership (transactional and transformational) positively influence performance.

Similarly, Mcging and Brown (2013) revealed that leadership is a critical success factor that strengthen risk management initiative and organisational performance. Puni, Ofei, and Okoe (2014) investigated the influence of leadership role on the performance of Ghanaian financial institutions. The study examined autocratic, democratic and laissez-faire leadership styles and how these types of leadership influence performance. The study indicated that none of these types of leadership influence firm performance. Similarly, Imamoglu, Ince, Keskin, Karakose and Gozokara (2015) examined how leadership role assists firms to be sustainable. They investigated the relationship between leadership role and organizational performance. They found a significant relationship between leadership role (transformational) and firm performance.

To give a recap of the literature position on the role of active leadership in the success of ERM, it is evident that leadership is a significant factor that influences the implementation of ERM programme of business firms. This present study argued that the success of business organisations largely depends on the qualities of the risk management leaders in providing reasonable assurance about the achievement of business objectives.

2.10 Board Equity Ownership and Firm Performance

There has been a vigorous academic debate concerning the role of board members with an equity interest in improving firm performance. Mehranv(1995) provided an empirical evidence that established the positive link between board equity ownership and firm's performance. Ribbon Committee (as cited in Albring, Robinson, & Robinson, 2013) contended that board equity ownership may reduce the agency problem and enhance board monitoring which may eventually improve the performance. Similarly, Bhagat and Bolton (2008) reported that board equity ownership has a positive relationship with firm performance. Similarly, they argued that the ability of organisations to discipline its management is positively connected to BEO. Board of directors has the authority to make, or ratify important policy decisions that relate to investment management and risk management issues (Bhagat & Bolton, 2008). They argued that BEO can serve as a proxy to good governance in organisations. It is logical to assert that since stock ownership of directors lead to good governance and improve performance, it will also encourage the implementation of ERM as a sound business strategy which is likely to improve firm performance.

Conversely, Ren *et al.* (2012) argued that firm performance is negatively related to board stock ownership, frequency of board meeting and managerial stock ownership. Similarly, a study conducted in Vietnam by Vo and Phan (2013) discovered a reduction in firm performance when the board's ownership ranges between 0% and 22% respectively. At the same time, where the board's ownership is above 22% of the total firm stock, the study realized an increase in firm's performance. However, some studies have reported that a non-linear relationship exists between insider

ownership (both managerial and board equity ownership) and firm performance (Bhabra *et al.*, 2003; Gedajlovic & Shapiro, 1998). Ruan and Tian (2011) examined the influence of insider ownership on firm performance through capital-structure choices, using a sample of China's civilian-run firms listed on the Chinese stock market. The empirical results indicated a non-linear relationship between managerial ownership and firm value. The curve-linear relationship was due to the influence of two conflicting positions with regard to equity ownership (i.e. the convergence of interest and the entrenchment effects).

The theory of convergence-of-interests posited that when the board of directors possesses no stock ownership, they have inadequate power to ensure effective control of fraudulent behavior. It is argued that as the ownership of stock among board members is encouraged, the board will align their interest with those of the stakeholders and will make decisions that will increase the shareholder value (Jensen & Meckling, 1976). On the other hand, as the boards' interests become more aligned with shareholders' interest, the interest entrenchment problem set in. Fama and Jensen (1983) argued that insider ownership may entrench the interest of the incumbent management and increases managerial opportunism.

On the other hand, Pergola, Joseph, and Jenzarli (2009) studied empirically the relationship between board equity ownership and firm earnings quality. Examining two theories of equity ownership (convergence of interests and management entrenchment) using a sample of 499 publicly traded firms. The study revealed that insider equity ownership is negatively related to earnings quality. The study argued that it is likely to come up with a different results in a different environmental setting

where the firm's culture and objectives are not the same. In another study that utilized a sample of listed companies from Bucharest Stock Exchange between the period 2007 and 2011, Vintila and Gherghina (2014) revealed that board equity ownership is negatively related to firm value. The study argued that the negative relationship is unconnected with the level of board equity ownership.

However, Garba and Abubakar (2014) indicated that the non-linear negative relationship is based on the level of insider equity ownership. They argued that as the board equity ownership increases, firm performance increases up to a certain level, beyond which, any increase in board ownership may lead to decrease in firm performance. Similarly, Bhabra, Ferris, Sen, and Yen (2015) argued insider equity ownership moves from alignment, to entrenchment, and back to alignment as the level of insider equity ownership of a firm increases. Specifically, the study indicated that director equity ownership initially aligns management's interests with those of shareholders but as the ownership level increases it transited to the entrenchment which provide insulation against hostile takeovers and labor market discipline. The study found a positive relationship between board equity ownership and firm performance when the ownership exceeds 52.73%. In a Malaysian context study, Nor, Shariff, and Ibrahim (2010) discovered that equity owned by the corporations, government, nominees and individuals directly influence the financial structures of the firms which will eventually affect the overall performance of the firms. Drawing from the perspective of Agency theory (Fama & Jensen, 1983), there exists potentially conflicting positions among the various stakeholders and authors on issues relating to insider ownership. However, this present study argued that an increase in board equity ownership may help to increase the monitoring capability of

board of directors which might lead to better decision making (about risk management issues) and higher firm performance.

2.11 The Nigerian Financial Industry

The financial system is simply a complex web of organized and regulated financial interrelationships among financial institutions of various kinds and between different economic units within an economy (Agu, 2011). In Nigeria, the financial system is made up of banks and non-banking institutions. The responsibility of regulating the sector is placed on CBN along with other government agencies such as the Nigeria Deposit Insurance Corporation (NDIC), National Insurance Commission (NAICOM) and the National Pension Commission (PenCom).

The banking subsector includes commercial banks, microfinance banks, primary mortgage institutions and other trust companies. Commercial banks dominate the sizable portion of the Nigerian financial industry. They constitute the largest in terms of size and profit declaration. Also, there are microfinance banks established to provide credit, banking and other financial services to the vulnerable segment of the community. The policy framework of CBN defines microfinance banks as financial institutions that are meant to provide financial services to the vulnerable who are mainly excluded from the services of conventional financial institutions. Microfinance policy frameworks include smallness of loans provisions, absence of asset-based security, and ease of operations. Another segment of the banking subsector is the primary mortgage institutions also known as savings and loans companies which specializes in the collection of household savings and originate mortgage loans. The primary mortgage institutions are meant to facilitate the

development and acquisition of houses through mortgages. They are expected to collect deposits and support individuals and corporations to meet their housing needs. These mortgage institutions operate under the resources National Housing Fund.

In 2004, the CBN introduced the Consolidation reform in which it decreed that all banks must increase their minimum share capital base from 2 billion Naira to ~~N~~25 billion by the end of December 31, 2005. The banks drastically reduced from 89 to 25 in 2004 and subsequently to 21 as at 2012. A similar reform was carried out in the insurance sector in order to improve their operating effectiveness. The minimum paid-up capital of life insurance companies was raised to N2 billion (representing an increase of 1,233.33 per cent) while the capital base of non-life insurance companies was increased up by 1,400 per cent to N3 billion. Composite insurance companies underwriting have their capital base increased by 1,328.57 per cent to N5 billion, while the reinsurance companies were required to increase their minimum paid-up capital to N10 billion, (representing an increase of 2,575.14 per cent) (Aduloju, Awoponle, & Oke, 2008).

Also, the insurance companies represent the second largest sector in the Nigeria financial services industry. The minimum capital requirements for life and non-life insurance companies are N2 billion and N8 billion naira respectively. Another important segment of the financial sub-sectors is the pension sub-sector. Within the operational framework of the contributory pension scheme fund managers were established for employees in Nigeria for payment of retirement benefits of employees.

Despite significant progress in recent years, the regulatory and supervisory framework of the financial institutions have been weak and cumbersome. The Nigerian financial institutions operate under a framework of laws, regulations, circulars, and guidelines that are not all well-understood, and do not seem to provide a coherent overall framework. A number of financial institutions have not demonstrated the necessary capabilities (risk management practices) to thrive within the Nigerian business environment which has led to a largely underperforming sub-sector (CBN, 2014b).

Additionally, the financial sector is one of the most regulated industries globally. In Nigeria, the financial sector has been subjected to a series of reforms. For example, Kama (2006) contended that the Nigerian financial sector has intermittently experienced a set of economic reforms packages to make it an outstanding player both in Nigeria and abroad. This is because a stable financial system contributes immensely to the broader economic growth and development of a nation. It performs one of the most important functions of improving the welfare of the citizenry by supporting the ability of the household and business entities to hold and transfer financial assets (CBN, 2010). The Nigerian financial sector being the hub of productive activity of the economy performs the vital role of intermediation, a provider of payment services and the fulcrum of monetary policy implementation (Olusegun *et al.*, 2013). The sector accounted for 61 percent gross financial assets of gross domestic product (GDP) in Nigeria (IMF, 2013). The financial sector is driven by banking, insurance and pension sectors. As at 2011, the total banking assets stood at N18.21 trillion naira, which represent about 53.60 percent of the GDP (IMF, 2013).

Recently, the central bank of Nigeria (CBN) issued some regulatory prescriptions, which include financial prudential guideline, capital adequacy, enterprise risk management and risk-based supervision among others. It is expected that firms' adherence to these provisions will enhance their efficiency. For the financial institutions to perform efficiently, a robust arrangement is required to deal with the various aspect of risks. The business environment is exposed to different hazards that undermine firm performance (Adeusi *et al.*, 2013). The Nigerian financial sector has been dominated by the banking industry having a significant proportion of total market capitalisation (SEC, 2012). Below is the pictorial view of bank capitalisation as a percentage of total market capitalization of the Nigerian Stock Market:

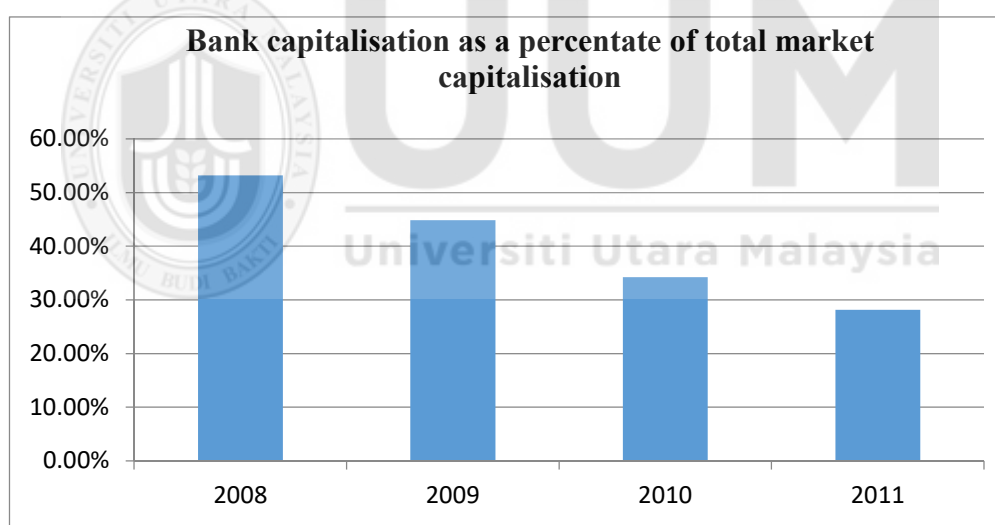


Figure 2.3
Source: Nigerian Stock Exchange, 2012

The financial sector experienced its far-reaching growth within the period 2007 and 2008. The sector enjoyed a decade of high business activity in terms of value and volume of trade that grew at 176% and 153% respectively (SEC, 2012). The growth of the industry was attributed to the 2004 recapitalization exercise, which saw the injection of massive resources into the market. The massive investment return

generated within the period enticed corporate and individual investors continue to inject funds into the market. The cumulative new issues by the corporate organization stood at N412.7 billion in 2005 and N1.34 trillion in 2007 (National Bureau of Statistics, 2013). The equity market capitalization rose from N2.5 trillion (\$22.73 billion) in 2005 to N12.1 trillion (\$110bn) in 2008 (National Bureau of Statistics, 2013).

Lamentably, risk management and corporate governance mechanisms did not progress commensurately to sustain the quick market growth (SEC, 2012). Hence, the management of some of these companies took advantage of the weaknesses of the systems and engaged in speculative lending to the oil and gas sector, and unregulated margin finance to brokers, and individual investors that fueled an asset bubble. From 2008 to 2011, the financial sector experienced a steady decline (17.42%) in the value of assets (SEC, 2012).

2.12 Risk Management Practices and Compliance in Nigerian Financial Sector

Financial institutions all over the world are viewed as the primary drivers of economic development. Recently, the activities of some firms have been weakened by the high-level corporate frauds. Some of these frauds were attributed to poor corporate governance. In fact, in the last three decades, the colossal bankruptcies of organisations, such as Enron, WorldCom, Arthur Anderson, Tyco, African Petroleum, and Cadbury Nigeria among others have triggered the need for firms to pay attention to corporate governance. The nasty experiences of these major companies have proved that no organisation can be classified as too big to fail

(Wilson, 2006). Hence to improve their effectiveness, scholars have emphasized the importance of corporate governance.

Blaauw (2009) contended that the CBN bailout of weak banks in Nigeria underlined the severity of combined risk management and corporate governance failures. The global financial crisis had indicated that adopting a “silo-based” approach to risks is insufficient to protect the operating efficiency of the business. Hence, financial institutions require an efficient ERM framework in addition to strong corporate governance compliance to protect the operating effectiveness of the enterprise (Blaauw, 2009). Financial penalties are inadequate to enforce compliance in the financial industry and the management information system is weak in preventing failure (Sanusi, 2010b). Again, the corporate governance have been adjudged to be weak and inefficient.

Corporate Governance (CG) has been defined by different scholars, as a process through which business organisations are directed, controlled and are made accountable to all stakeholders (Wilson, 2006). Uwuigbe and Fakile (2012) explained CG as the set of processes, traditions, policies, rules and institutions that describe how a corporation is being managed. Further, CG refers to the processes, structures and relationships through which the board members monitor the performance of management. Further, Jayashree (2006) viewed corporate governance as a system of making directors accountable to shareholders with the aim of making business entities effective and efficient. It is the control of companies through the board of directors that hinges on complete transparency, integrity and accountability of management. Corporate governance practices refer to those

structures within a business venture that enable the board of directors to align their firms with proper and sound business practices (Oyejide & Soyibo, 2001). In summary, one can conclude that corporate governance has become a source of concern not only to the firms but also to the regulatory bodies.

According to a CBN report, the financial institution and more specifically the banking sector has been confronted with myriads of problems and challenges that undermine their effectiveness. Fraudulent practices, weak internal controls systems and non-compliance with laid down regulations have eroded the operational efficiency of financial institutions in Nigeria (Olamide, Uwalomwa, & Ranti, 2015). The world bank's report on the observance of standards and Codes have identified significant institutional weaknesses in terms of compliance and enforcement capacities of financial institutions in Nigeria (The World Bank, 2011).

Nigeria as one of the countries that suffered from the consequences of corporate governance failure joined other developed countries to come up with its corporate governance codes. This development has led to the proliferation of several corporate governance provisions in the country (Demaki, 2011). Three codes were developed though intermittently to guide corporate business operations and ensure sound business practices. To ensure best corporate governance practices, the Nigerian Securities and Exchange Commission (SEC) inaugurated a committee in 2008 to review the 2003 CG provisions by addressing its weaknesses and identify better avenues for its implementation (Demaki, 2011). In 2011, the code was revised to take care of some operational shortcomings. Also, in 2006, the Central Bank of Nigeria (CBN) developed a code for banks under the provision of the Bank and

Other Financial Institution Act (BOFIA). Further, in 2009, NAICOM developed a code of corporate governance for all insurance, reinsurance, brokerage firm and loss adjusting firms in Nigeria (CBN, 2006; PENCOM, 2008; NAICOM, 2009).

According to Idornigie (2010), having multiple codes may lead to ambiguities as firms may find it difficult to reconcile and comply with all the codes. For instance, while the provision in the SEC corporate governance code is not mandatory, that of the CBN is binding on all the banks operating in Nigeria. However, there is no express provision of the NAICOM Code (2009) as to whether it shall be binding on organisations or not, other than stating in clause 11.0 that it applies to all insurance companies. However, CBN had made risk management and compliance a top priority for financial institutions (IMF, 2013). Similarly, the SEC corporate governance code is made up of 10 parts (A-J). Part E, Section 29 of the code explains explicitly clear the responsibility of establishing risk management practices in a listed firm. The code stated that:

“The board handles the process of risk management. It should accordingly form its opinion on the effectiveness of the process. The management is accountable to the board for implementing and monitoring the process of risk management and integrating it into the day-to-day activities of the company” (SEC, 2011, p.38).

Also, the code has made it clear that the BOD can establish a risk management committee to assist the board in its risk management responsibilities. Section 29 of the SEC code stated that...

“The Board where it deems fit may established a risk management committee to assist it in its oversight ...” (SEC, 2011, p. 39).

It is important to note that the enforcement of corporate governance mechanism may enable the board of directors to identify misleading behaviours aim at defrauding unsuspecting investors. The experience of major US firms is a signal to that effect. The primary motive of corporate governance is to maintain investor's confidence and to serve as a benchmark for monitoring and implementing corporate policies that will positively improve firm performance. Also, to safeguard the steadiness of the financial system, the regulators have directed banks to implement a number of programmes, ERM, Basel II as well as Internal Capital Adequacy Assessment Process (ICAAP) (PriceWaterhouseCoopers, 2013). Dabari and Saidin (2015) reported that majority of the Nigerian banks have implemented ERM programme. Most of the banks believed that ERM framework will effectively facilitate the achievement of strategic objectives of the business. On the contrary, Deloitte (2014) carried out a qualitative research to assess the state of ERM implementation in the Nigerian insurance industry by interviewing some CRO and heads of risk management department. The study reported that the risk management practices of the majority of insurance companies is situated between initial and Comprehensive stages. While there is clear provisions for firms to implement ERM from the regulatory agencies, the implementation of ERM for some financial institution is still at its partial stage. Though majority of insurance and banking institutions have fully implemented ERM programme.

Thus, it is clear that given the role of financial sector in the development of any economy, it is expected that this study would better encourage the Nigerian financial institutions to re-strategize their risk management approach and formulate sound risk management strategies to achieve better firm performance.

2.13 Guidelines for Risk Management Framework in Nigeria

In Nigeria, agencies such as Central bank of Nigeria (CBN), national insurance commission (NAICOM) and pension commission (PENCOM) have developed guidelines for establishing risk management frame works. The guidelines for developing risk management frameworks for all the regulatory agencies seem to have similar objective which is to protect the operating efficiency of business entities under their jurisdiction.

It obvious that organisations get exposed to different classes of risks in pursuit of their business objectives. The basic ones include credit, market, liquidity, and operational risks and inability to adequately manage these risks exposes financial institutions not only to losses, but threaten their survival as business entities thereby endangering the stability of the financial system. The CBN indicated in section 2 of its guideline for developing risk management framework that it is “the overall responsibility of the Board and Management of each bank to ensure that adequate policies are put in place to manage and mitigate the adverse effects of all risk elements in its operations”. It further stated in section 2.2 that each bank should develop and implement appropriate and effective systems and procedures to manage and control its risks in line with its risk management policies. Section 2.3 stated that to ensure that each bank should submit a copy of its Risk Management Framework (RMF) highlighting its assessment of each risk element and any amendments thereto, to the Central Bank of Nigeria and the Nigeria Deposit Insurance Corporation for appraisal for supervision purposes. To ensure effective risk management in the banking sector, the guideline identifies three key elements of risk management process that each bank must follow:

- a. The “risk management structure with board and senior management oversight as an integral element”.
- b. Effective and efficient “systems and procedures for risk identification, measurement, monitoring and control”
- c. Risk management framework review mechanism

In section 4.5 of the guideline each bank is expected to have a risk management committee at the operational level with the responsibility of ensuring effective risk management function headed by a qualified top level management cadre.

Similarly, the pension commission of Nigeria (PENCOM) developed a risk management guide for licensed pension operators in the country. The guide indicates in section 3 that a “framework for management of risk shall set the context in which risks will be identified, analysed, controlled, monitored and reviewed. It must be consistent with processes that are embedded in everyday management and operational practices. It further indicated that the framework shall focus on risks identification, information about their probability and potential impact, risks quantification and how they can be treated.

Additionally, NAICOM had also developed guidelines for developing risk management framework to ensure that all aspects of risks that are likely to affect insurance companies are considered. NAICOM viewed a risk management framework as “the totality of systems, structures, policies, processes and people within the company by which the company identifies, assesses, mitigates and monitors all internal and external sources of risk that could have a material impact on the company’s operations”(NAICOM, 2012).

The companies are expected to have a risk management framework that can provide a reasonable assurance to all the stakeholders that the risks to which an insurer is exposed to are being soundly and prudently managed. The guideline indicates in section 1.6 that the commission shall not prevent an insurance company to apply any risk management framework provided that such framework has been approved and adopted by the Board of the company for its purpose and meets the requirements of the NAICOM guidelines. The framework shall capture the company's risk management strategy, must indicate the risk appetite and risk tolerance, indicates chief risk officer, ERM committee and a well-defined risk governance and responsibilities. At a minimum, the Framework should cover the following areas: Market risk/investment risk, credit risk, operational risk, liquidity risk, underwriting risk, claims management risk, reputational risk and legal risk

2.14 Conclusion

The chapter has reviewed current literature to examine the relationship between ERM implementation and firm performance. The chapter can be divided into two strides. The first part of the chapter has traced the historical development of risk management. The second part of the chapter explain the ERM framework, ERM success factors, the board equity ownership (moderating variable) and the effect of ERM implementation on firm performance. It finally gives a brief on the Nigerian financial sector. From the review, it is apparent that there is an acute shortage of research in Africa and specifically in Nigeria being the largest economy on the continent. The next chapter will explain the underpinning theories and the conceptual framework for the study.

CHAPTER THREE

UNDERPINNING THEORIES AND CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter presents the underpinning theories that guide the study. It also shows a schematic view of the research framework and the relationship between the independent and the dependent variables. Eight independent variables are selected based on the extensive review to examine the influence of ERM practices on the performance of financial institutions in Nigeria. The variables include ERM Framework, compliance, risk culture, risk management information, risk knowledge sharing, staff competence, organisational innovativeness and leadership factor. Also, board equity ownership was used as a moderating variable. Thus, the chapter put forward a conceptual framework that empirically examines the connection between the study constructs. The framework has provided the basis for the development of the study hypotheses. Finally, the chapter operationalizes the study variables and develops hypotheses.

3.2 Underpinning Theories

Based on the reviewed literature, three theories have been selected painstakingly to guide the study. The theories include modern portfolio theory (MPT), the agency theory and the resource-based view. The objective of this study is to examine the effects of ERM practices on the performance of financial institutions in Nigeria. To achieve the objective of this study variables were selected based on the theoretical assumptions of the selected theories. Below are the theories that guide this research work:

3.2.1 Modern Portfolio Theory

Modern portfolio theory (MPT) is one of the foundational theories from which the concept of ERM has evolved (Alviniussen & Jankensgard, 2009). The theory was introduced by Harry Markowitz and explained how investors can manage risk through diversification and asset allocation (Markowitz, 1952). MPT is a mathematical conception of diversification. It is a mechanism that allows investors to select a collection of investment assets that collectively have lower risk than individual assets. In fact, Hill (2010) argued that the whole essence of portfolio investment is to determine an overall level of risk that is lower than any of its individual components. Under this conception, an investor need to consider how the assets correlate with each other (Elton & Gruber, 1997).

In the same way, ERM provides a structure for thinking about the organisational risk in terms of the portfolio of risks and the contribution of each risk to the portfolio. It is an arrangement where all types of risks (financial, hazard, operational, and strategic risks) integrate into a single portfolio of risk (Beneda, 2005). While MPT provides a mechanism for examining the risk of financial assets collectively and assesses the contribution of each security to the portfolio (Casualty Actuarial Society, 2003); ERM extends the concept beyond financial risks to incorporate all types of risks (portfolio of risks) an organisation faces. Fundamentally, the concept of portfolio theory stressed that assets should not be selected individually on its merit; rather it should be on the basis of how it interacts with other assets.

Drawing from the MPT assumptions, Choi *et al.* (2015) reported that for the management to have a clear view of risks, they need to consider the risk of an organisation as a whole. In other words, organisations have to view risk as a portfolio. In the finance literature, the total risk of a firm is divided into two parts, i.e., systematic and unsystematic risk (Hotvedt & Tedder, 1978). Systematic risk refers to those portions of risks associated with the market. It is the risk that is inherent in the market. In other words, systematic or market risk are risks that affect the entire market (Hotvedt & Tedder, 1978). While unsystematic risk usually referred to as firm-specific risk (Ross, Westerfield, & Jaffe, 2002). Examples of unsystematic risk include labour strike, new business competitor, technological advancement, management competence etc.

The contention that arises from the MPT is that investors are not interested in firm-specific risk as they can control it through the creation of a diversified portfolio. MPT provides an avenue for organisations to consider investments in the form of a portfolio and the contribution of each investment to that portfolio of assets (Ballantyne, 2013). As such it will not be necessary to expend resources to implement ERM, particularly in a frictionless market. According to MPT, the idiosyncratic risk portion of business organisations can be mitigated by proper asset mix through the diversification. In other words, it can easily be controlled by combining uncorrelated securities in a single portfolio (Ballantyne, 2013). Therefore, according to MPT, any expenses by an organization to allay firm-specific risk destroys shareholder value (Beasley *et al.*, 2008; Liebenberg & Hoyt, 2003).

However, several studies have provided support for ERM implementation in organisations as an integrated risk management concept (Alviniussen & Jankensgard, 2009). For example, Nocco and Stulz (2006) proposed that market imperfections invalidate the frictionless market assertion that a firm need not to spend resources on managing firm-specific risk. Fundamentally, Markowitz found that the variance of the return on a portfolio is a function not only of the variances but also the covariances between individual investments instruments and their weights (Markowitz, 1952). In fact, the prime reasons for ERM implementation relate possibility of lowering the risk management cost and the need for firms to improve performance in a fast-changing risk environment (Galloway & Funston, 2000). Again, among the rationale for ERM is to mitigate the reduce financial distress costs, mitigate investment problems and avoid costly external financing (Lin *et al.*, 2012). Hence, implementing ERM supposed to reduce the total risk level of the firm (Kleffner, Lee, & McGannon, 2003b).

Thus, ERM is a strategy that ensures the efficient management of a portfolio of risks in organisations (Casualty Actuarial Society, 2003; Cumming & Hirtle, 2001). It is a strategy that is meant to address all types of risks confronting business firm (Ballantyne, 2013). Thus, fundamental to the operation of an ERM process is the idea of combining and managing risks in the form of a portfolio. Hence, the whole ERM practices are covered by the MPT.

3.2.2 Agency theory

The complexity of modern business, stock market development and the need for organisations to allocate risk efficiently (Fama, 1980; Fama & Jensen, 1983) have

created the need for principal-agent relationships. Agency theorists have argued that in the modern corporation, conflicts of interest surfaces because of the division that exist between managers and owners (Pratt & Zeckhauser, 1985). Fundamentally, agency theory has provided the background for understanding the contractual relationship between principals (owners) and agents (managers) in the modern business environment (Jensen & Meckling, 1976).

In an agency relationship, the agent may pursue actions that are inconsistent with the wealth maximization interests of owners (Demsetz & Lehn, 1985; Jensen & Meckling, 1976). The contract has obliged the agent to ensure efficient management of risks on behalf of the principal, who is the residual claimant and the risk bearer (Fama & Jensen, 1983). Two of the fundamental mechanisms agency theory uses to address the agency costs are monitoring and bonding (compensation) (Hoskisson, Castleton, & Withers, 2009). Agency cost usually arises when the agent deviates from the interest of the principal. In most agency relationships, the principal and the agent will incur positive monitoring and bonding costs (non-pecuniary as well as pecuniary) (Jensen & Meckling, 1976).

As such, active board control is assumed to maintain superior firm performance because of its legitimate authority and power to hire, fire, and compensate (Lim & Mccann, 2013). Fama and Jensen (1983) believed that managers are not likely to deviate from shareholders' interests if the monitoring mechanism functions effectively. The board's control function may be more efficient where directors receive incentives to ensure alignment of interests between BODs and shareholders (Hillman & Dalziel, 2003; Lim & Mccann, 2013). Deutsch, Keil and Laamanen

(2010) argued that stock options can provide directors with some form of ownership that will motivate them to fulfil fiduciary responsibilities and pursue shareholders' interest.

Therefore, the agency literature sees the board of directors (BOD) as the primary instrument for controlling executive behaviour on behalf of shareholders (Fama & Jensen, 1983; Hillman & Dalziel, 2003). In addition to monitoring, the board is expected to encourage risk taking while ensuring that appropriate risk management strategies are deployed to prepare the management against any threats (National Association of Corporate Directors (NACD), 2009). Levy *et al.* (2010) supported the view that placed the onus of risk management initiative on the BOD. Again, the COSO ERM framework stressed the roles of the board of directors to the practical implementation of ERM and the protection, creation and enhancement of shareholders' value (DeLoach & Thomson, 2014).

Similarly, the idea of complying with regulatory provisions and codes can be traced to the theoretical assumptions of Agency theory (Jensen & Meckling, 1976; Tariq & Abbas, 2013). The theory postulated that the conflict that arises between the management and the owners can be subdued by adherence to internal and external control mechanisms. One of the controls mechanisms is the firm adherence to applicable regulations and provisions. This mechanism is expected to reduce the conflict and allow the management to focus on issues that will improve firm performance. Hence, this theory covers both the moderating variable board equity ownership and compliance.

3.2.3 The Resource-Based View

According to the resource-based view theory, firm performance is based on the application of valuable tangible and intangible resources (Baney, 1991; Penrose, 1959). Baney argued that applications of these resources may lead to competitive advantage and if it is sustained will improve firm performance. The inspiration to examine companies as a broader set of resources goes back to the seminal work of Penrose (1959). Penrose contended that the management ability to ensure the best utilization of available resources can influence firm performance. According to Baney (1991), firm's resources refer to all assets, capabilities, organisational processes, companies' attribute, information, knowledge and strategies that will lead to better performance. For the resources to create competitive advantage, they need to be valuable, rare, inimitable and non-substitutable (Crook, Kretchen, Combs, & Todd, 2008). The theory contended that successful organisations will gain a competitive advantage based on unique capabilities (Teece, Pisano, & Shuen, 1997).

The resource-based view asserted that the ability of the firm to develop depends on its readiness to adapt to the changing competitive environment and improves its survival prospects (Esteve-Pérez & Mañez-Castillejo, 2008). Other resources include a strong risk culture that promotes an informed decision that ensures the long-term viability of organisations (Baney, 1991; Cooper *et al.*, 2012; COSO, 2004; Sabato, 2009). Also, studies have mentioned the importance of risk information management as a strategic resource for business success (Laudon & Laudon, 2012; Quon *et al.*, 2012; Robert & Krishna, 2007). Risk knowledge sharing is another critical organisational resource that has been viewed to improve firm performance (Rodriguez & Edwards, 2010). Moreover, organisational innovativeness and staff

competence are resources that lead to corporate success (Baregheh *et al.*, 2009). Thus, this theory covered ERM critical success factors, which will ensure effective ERM implementation and improve firm performance.

3.3 Theoretical Research Framework

Figure 3.1 below is the research framework developed from the literature specifically to address the problem of the study. The variables were selected based on practical and theoretical issues identified in the literature. As noted in the literature, the findings on the relationship between ERM and firm performance has been inconsistent. Hence, a moderating variable was introduced as suggested by previous studies (Gordon *et al.*, 2009; Hafizuddin-Syah *et al.*, 2014) to strengthen the relationship between the independent and the dependent variables. Below is the research framework for the study.

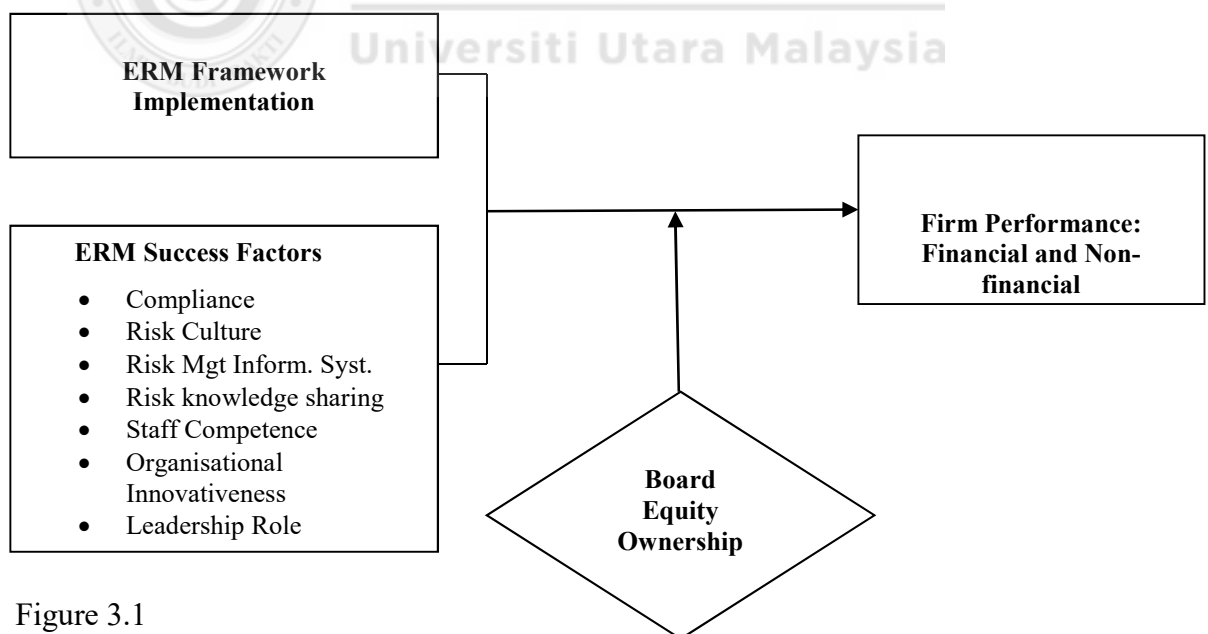


Figure 3.1
Research Framework

Modern portfolio theory underpinned the research framework for this study. Also, two more theories (agency theory and resource-based view) were incorporated to support the study. The dependent variable for the study is firm performance (financial and non-financial). This research work explained the variance in the dependent variable using eight independent variables. They include ERM framework, ERM success factors (compliance, risk culture, risk management information, risk knowledge sharing, staff competence, organisational innovativeness and leadership role), and the board equity ownership. The study proposes that ERM framework and ERM success factors are likely to result in higher firm performance. The board equity ownership is assumed to encourage proper and efficient implementation of ERM in the organisations. The study has proposed Board Equity Ownership to serve as an incentive that will encourage board of directors to ensure adequate and effective monitoring (Hillman & Dalziel, 2003; Lim & Mccann, 2013).

The ERM framework includes the procedures and methodologies on how the organisation operates its risk management initiative. In this study, ERM framework refers to an organisational strategy that explains the process for strengthening risk management practices in organisations. The reviews of the existing literature have identified seven ERM success factors for the effective implementation of ERM in organisations. These factors include compliance, risk culture, risk management information system, risk knowledge sharing, organisational innovativeness and staff competence and leadership role. The research framework proposes that board equity ownership to moderate the relationship between ERM framework, ERM success factors and the performance of financial institutions in Nigeria.

Table 3.1

Empirical Literature on the study Variables

Variable	Author/Year	Technique of Analysis	Findings
ERM Framework Implementation	Beasley, Pagach and Warr (2008)	Logit Regression	For nonfinancial firms, announcement period returns are positively associated with firm size and the volatility of prior periods' reported earnings. However, there are fewer statistical associations between announcement returns and firm characteristics. These results suggest that the costs and benefits of ERM are firm-specific.
	Yow and Sherris (2008)	Descriptive and Correlations	Risk management reduces the volatility of financial performance and can have a significant impact on firm value maximization by reducing the impact of frictional costs.
	Hoyt, Moore, and Liebenberg (2008)	Tobins Q Model	We find a positive relation between firm value and the adoption of ERM. The ERM premium is found to be statistically and economically significant on firm value
	Gordon, Loeb and Tseng (2009)	Multiple Regression	The study revealed that ERM influence firm performance contingent upon the appropriate match between ERM and other contextual variables
	Beasley, Branson and Hancock (2010)	Multiple Regression	Statistics are given concerning risk oversight by boards of directors, chief executive officers, and audit committees and for satisfaction with the risk monitoring process
	Manab, Kassim and Hussin (2010)	Hierarchical Regression	EWRM implementation ensured survival of the companies and value creation
	Lai and Samad (2011)	Pearson Correlation and Regression	The study revealed that ERM implementation reduces the cost of financial distress, lower external financing cost, improve firm's credit rating, increase equity market reward and reduces agency problem.

Table 3.1 (Table Continued)

Variable	Author/Year	Technique of Analysis	Findings
	McShane, Nair and Rustambekov (2011)	Multiple regression	The authors found evidence of a positive relationship between increasing levels of TRM capability and firm value but no additional increase in value for firms achieving a higher ERM rating
	Hoyt and Liebenberg (2011)	Logit Regression	We find a positive relation between firm value and the use of ERM. The ERM premium of roughly 20 percent is statistically and economically significant.
	Tahir and Razali (2011)	Tobins Q Model	Empirical results report that ERM is positively related to firm value but it is not significant.
	Lin, Wen, and Yu (2012)	Tobin's Q Model	We also observe ERM lowers insurers' Tobin's Q, ROA, and Underwriting ROA, suggesting no value enhancement from ERM implementation. This can be attributed to the fact that it is difficult for investors to decipher the value of ERM since ERM complicates risk management processes.
	Gates, Nicolas, and Walker (2012)	Structural Equation Modelling	ERM process lead to enhancement of managerial decisions, enhanced communication of risk taking, and greater management accountability which in turn improve performance.
	Ballantyne (2013)	Correlation and multiple regression	The results of this study strongly suggest that ERM adoption is not associated with financial performance and that ERM adoption alone is not sufficient to achieve the financial benefits hypothesized in the ERM literature.
	Bertinetti, Cavezzali and Gardenal (2013)	Correlation and Regression	We find a positive statistically significant relation between the ERM adoption and firm value.
	Manab and Ghazali (2013)	Hierarchical Regression	The findings show that return on equity, opacity, debt over asset, operating margin, cost of financing and taxation, and financial slack are significant for financial companies.

Table 3.1 (Table Continued)

Variable	Author/Year	Technique of Analysis	Findings
Compliance	Alves & Mendes (2001)	Multifactor regression Model	The study revealed a positive relationship between the compliance and the abnormal returns of the firms listed in the Portuguese stock market
	Ammann, Oesch & Schmid (2011)	Dynamic Panel Regression Model	The study indicated a strong positive relation between firm-level corporate compliance with governance and firm performance
	Abiola, Ojo and Solomon (2012)	Analysis of variance	The study reported that compliance have positive effects on the performance of PMIs in Nigeria
	Beltratti & Stulz (2009)	Regression Analysis	The study revealed that firms in countries with stronger supervision and strict regulations performed better during the 2008/2009 financial crisis
	Doran & Ryan (2012)	Multiple Regression analyses	The study revealed that compliance with effective policies lead to higher firm growth
	Akinkoye, Ebenezer and Olasanmi (2014)	Descriptive statistics	The results indicated that an average compliance level of 72.15% had led to a growth rate of 5.83%
Risk Culture	Gozman & Currie (2015)	Qualitative approach	The study indicated that regulatory adherence lead to better firm performance and positioned a firm to overcome its challenges
	Kimbrough & Compton (2009)	Correlations Analysis	Organisational culture is related to the progress of organisations
	Roslan & Dahan (2013)	Conceptual paper	The study confirmed that risk culture is one of the important attributes of risk management that helps board to make inform decisions
	Protiviti Inc (2014)	Qualitative approach	The study revealed that effective risk culture improves the overall health and operation of an organization
	Sorensen (2002)	Regression Analysis	The study has shown that corporate culture improves firm performance in relatively stable environments
	Power, Ashby & Polermo (2013)	Qualitative Approach	The study indicated that most firms that collapsed during the financial crisis were either unaware or indifferent to risk profile of their firms

Table 3.1 (Table Continued)

Variable	Author/Year	Technique of Analysis	Findings
	Ehtesham, Muhammad & Muhammad (2011)	Regression and correlation statistical analysis	The study revealed that organizational culture is positively related to firm performance
	Davidson (2003)	Correlations Analysis	The study revealed that some of the organisational culture components were related but not significant to related with firm performance
	Uzkurt, Kumar, Kimzan & Eminoglu (2013)	Regression Analysis	The study revealed that organizational culture has positive effect on the firm performance dimensions
	Aksoy, Apak, Eren & Korkmaz (2014)	Probit Regression analysis	The study revealed that organizational culture components have strong effect on organization's efficiency and performance
	Rodriguez & Edwards (2009)	Regression Analysis	The results did not support the positive connection between risk management information system functionality and perceived benefit of ERM implementation
	Hashim, et al. (2012)	Descriptive statistics	The study revealed that effective management information system improves firm performance
	Al-gharaibeh & Malkawi (2013)	A case study approach	There is a significant relationship between management information system and the performance of public institutions in Jordan
Risk Management Information	Altaany (2013)	Chi-square test and Correlation analysis	The study indicated a significant positive relationship between management information systems and higher performance of municipalities in northern Jordan
	Kehinde & Soybo (2012)	Multiple Regression Analysis	The result of the study indicated that management information system significantly influence firm performance
	Quon & Maingot (2012)	Descriptive statistics	The study revealed that enterprise risk management information has no appreciable effect on firm performance

Table 3.1 (Table Continued)

Variable	Author/Year	Technique of Analysis	Findings
	Ravichandran, Lertwongsatien & Lertwongsatien (2005)	Structural Equation Modelling	The results provide strong evidence to believe effective information management significantly influence performance
Risk Knowledge Sharing	Hartono & Sheng (2015)	Structural Equation Modelling	The study proposed a conceptual model to explore how knowledge sharing determines the fate of a firm
	Yam & Chan (2015)	Structural Equation Modelling/Interview	The study revealed that knowledge sharing among committed business partners suppresses business opportunities
	Rehman, et al. (2015)	Correlation and regression analysis	The results revealed that both information sharing and risk management has positive effect on the financial performance of selected banks
	Liao et al. (2011) Hsu (2008)	Structural equation modeling	The study revealed that information sharing between suppliers and manufacturers do improve business capabilities
	Hsu (2008) Ritala et al. (2014)	Regression Analysis Regression Analysis	The study revealed that firm's knowledge sharing improve firm performance The study has shown that external knowledge sharing has a positive effect on the innovative performance of a firm
Staff Competence	Long & Ismail (2011)	Spearmen correlation and multiple regression analysis	The study revealed that human resource competencies strongly influence the strategic performance of firms
	Ekrot et al. (2016)	Multiple regression	The study found a strong positive relationship between employee competence and average project success of organizations
	Laguna (2012)	Multiple regression	The study revealed that managerial competencies are significant predictors of business success
	Sanda (2011)	Multiple regression	The study revealed the managerial competence appear not to have positive effect on firms' performances

Table 3.1 (Table Continued)

Variable	Author/Year	Technique of Analysis	Findings
	John & Ackah (2015)	Regression analysis	The study revealed that employee competence positively influence firm performance
	Ssekakubo (2014)	Descriptive statistics, correlation and regression analysis	The study revealed that managerial competence strongly influence firm performance
Organisational Innovativeness	Lin & Chen (2007)	Multiple Regression Analysis	The study indicated that Innovation has a weak connection with firm performance
	Mbizi et al. (2013)	Multiple Regression	The findings revealed that innovation has a significant effect to the firm competitive advantage
	Zumitzavan & Udchachone (2014)	Chi-square	The findings indicated that organisational innovation is connected to organisational performance
	Tajeddini (2016)	Regression Analysis	The research findings indicated that innovativeness improves better performance of public institutions
	Suliyanto & Rahab (2012)	Multiple Regression Analysis	The results indicated that innovativeness has strong effect on firm performance
Leadership Factor	Puni et al. (2014)	Multiple Regression	The result indicated leadership styles has no significant on the performance of banks in Ghana
	Garciaa-Morales (2012)	Multiple Regression	The study revealed that transformational leadership positively influence organizational performance
	Aziz (2013)	Regression Analysis	The findings revealed a significant positive relationship between effective leadership style and business performance
	Imamoglu et al. (2015)	Regression Analysis	The study revealed that effective leadership affects firm performance
	Ozsahin et al. (2011)	Regression Analysis	The study revealed a positive relationship between leadership role and firm performance

3.5 Hypotheses Development

Consistent with the theoretical justifications provided in the literature (Baney, 1991; Jensen & Meckling, 1976; Markowitz, 1952) and other empirical studies (Ballantyne, 2013; Gates *et al.*, 2012; Hoyt & Liebenberg, 2011; Mikes & Kaplan,

2014), hypotheses have been developed for testing empirically. The study has three independent variables, namely, ERM framework, ERM success factors, board equity ownership and firm performance as the dependent variable. Reference to the previous literature, this segment will concentrate on hypotheses development. Thus, the hypotheses of the study are formulated in line with the study research objectives.

3.5.1 ERM Framework and Firm Performance

Hoyt *et al.* (2008) reported that ERM implementation has a significant relationship with firm value. Likewise, Lai and Samad (2011) disclosed that ERM framework implementation significantly reduces the cost of financial distress; lower the cost of external financing, improves the firm's credit rating, reduces informational asymmetries, and reduce agency cost. Hoyt and Liebenberg (2011) indicated that ERM (which is determined by institutional investors and firm size), is positively related to firm value. Beasley, Pagach and Warr (2008) indicated that market reactions to CRO appointments are positively related to firm size and previous earnings volatility. In this connection, Lin *et al.* (2012a) reported that the inability of some researchers to support the value relevance of ERM may be because ERM is still at its infancy stage.

Again, an empirical study (Tahir & Razali, 2011) established a positive but insignificant relationship between ERM and return on asset. Similarly, Gatzert and Martin (2013) reported that company size and institutional ownership positively influenced ERM adoption and that ERM has a positive impact on firm performance. Similarly, Gates, Nicolas and Walker (2012) reported that ERM adoption led to the improvement of managerial performance. They maintained that ERM

implementation results in greater management consensus, better-informed decision-making and increased accountability. Likewise, Bertinetti, Cavezzali and Gardenal (2013) indicated a significant positive relationship between the ERM adoption and the firm value.

On the contrary, some researchers have questioned the theoretical benefits of ERM implementation. For example, Mikes and Kaplan (2014) affirmed that ERM has become an essential element of the modern business environment with principles, guidelines, and standards. Despite the level of acceptance among world business leaders, the value relevance of this important concept is still debatable. In their study, Mikes and Kaplan (2014) claimed that the relationship between ERM implementation and firm performance have been mixed and inconclusive. They argued that the inconsistencies are due to the inability of scholars to identify suitable frameworks that quickly captures the effects of ERM implementation. In a study of US context, Ballantyne (2013) found no relationship between ERM and firm financial performance and that the implementation of ERM alone is not sufficient to achieve the claimed theoretical benefits of ERM as highlighted in the literature. Hence, a comprehensive approach to risk management is expected to make or positively improves firm performance. As such, the following hypothesis is developed for empirical testing:

H₁: ERM framework implementation is positively related to the performance of financial institutions in Nigeria.

3.5.2 ERM success factors and Organisational Performance

Below are the hypothesized relationship between ERM success factors and firm performance:

3.5.2.1 Compliance

One of the essential attributes of risk management relates to the issue of compliance. In many countries, regulators are pressing firms to improve risk management and risk reporting (Collier *et al.*, 2006). Examples of such regulatory pressure include the NYSE Corporate Governance Rules and the Sarbanes-Oxley Act in the US, the Combined Code on Corporate Governance in the UK, and Security and Exchange Commission known as the SEC Code in Nigeria. These codes apply to listed firms, and require companies to maintain a sound risk management framework.

Kelman (1958) proposed that compliance occurs when individuals or organisations agree to a given provision in anticipation of a favourable reaction from another person or group. Compliance with regulations and standards are part and parcel of essential risk management requirements that determine its success (Martens & Teuteberg, 2011). Berenbeim (2004) opined that compliance is a key component of ERM; as such an effective ERM implementation requires a strong reinforcement of compliance systems.

Studies have affirmed the importance of having a sound relationship between compliance and risk management to achieve organisational goals, enhance shareholder value and improve performance (PricewaterhouseCoopers, 2004). Shimpi (2005) argued that corporate governance and compliance are the life-blood

of ERM. Hence, compliance is considered and an essential ingredient for ERM to achieve firm performance. Rosen and Zenios (2001) believed that it would be difficult for firms to achieve ERM objectives without adequate compliance with corporate governance provisions. The requirements of corporate governance are expected to support and sustain an effective risk management practices (Paape & Spekle, 2012). Hence, the following hypothesize relationship:

H₂: Compliance is positively related to firm performance.

3.5.2.2 Risk Culture

Culture has been reported to play a critical role, ranging from how organisations design programs to how quickly the organization respond to market changes (Kimbrough & Componation, 2009). Kimbrough and Componation (2009) indicated that organizational culture positively influences ERM adoption, effectiveness, and speed. In line with this position, Roslan and Dahan (2013) maintained that It will be difficult for organisations to succeed in its ERM initiative without entrenching a sound culture into the organisational structure.

KPMG (2011) indicated that a healthy risk culture is necessary for organisational success. The Institute of International Finance (IIF) (2009) defined risk culture as those shared values, norms and behaviours among members of an organisation. It influences decisions at all levels of the firm. Organizations that establish a strong culture of risk will promote risk-informed decisions and higher performance (Baney, 1991; Cooper *et al.*, 2012). The influence of risk culture at all level of decision-making helps facilitate the achievement of strategic business goals (Institute of International Finance (IIF), 2009). Similarly, COSO (2004) viewed organisational

risks culture as one of the essentials components of ERM practices. Thus, risk culture provides an opportunity for the organisation to maintain a competitive advantage, and by extension higher performance (Drew, 2007). Ernst and Young (2014) believed that most of the challenges that continue to plague the financial industry globally to some extent relates to risk culture.

Despite the claim that culture is relevant to the organisational success, some studies have a different view concerning the role culture plays in the organisation. Davidson (2003) explored the relationship between the corporate culture and the performance of a South African investment bank. The study failed to establish a significant association between culture and firm's performance. Similarly, De Caluwe and Dooren (2013) opined that organisational culture has no significant effect on performance. However, Kleffner, Lee and McGannon (2003) have argued that organisational culture may serve as an obstacle to ERM implementation. Particularly to organisations that resist change. Based on the reviewed literature, the following hypothesis has been formulated.

H₃: Risk culture is positively related to the firm performance.

3.5.2.3 Risk Management Information System (RMIS)

Specifically, risk management information systems could affect organisations in several ways. It can improve internal capital allocation decisions and enhance market discipline by making it less costly for a firm to convey information outside the firm, thereby reducing asymmetric information between insiders and outsiders (Gibson, 1998). Further, it has been claimed that the integration of risk management information system in ERM program improves organisational performance (Arnold

et al., 2014) In order to improve organizational performance, information dissemination is expected to assist organisations to understand and manage business fortuities. Some studies have reported the positive relationship between RMIS and firm performance (Al-gharaibeh & Malkawi, 2013; Altaany, 2013; Hashim *et al.*, 2012). Based on these theoretical arguments, the study has come up with the following hypothesis:

H₄: There will be a positive relationship between risk management information system and firm performance.

3.5.2.4 Risk Knowledge Sharing

Knowledge management entails an effort that has to do with certain procedures and techniques used to get the most from an organization's tacit and codified know-how (Teece, 2000). Improvement in knowledge sharing increases the organisational abilities to manage fortuities (Rodriguez & Edwards, 2009a). As such, for organisations to effectively manage risks, risk knowledge sharing is one of the critical success factors for ERM (Anthropopoulou, 2005). Knowledge sharing is an important organisational resource that will improve firm performance (Mentzas *et al.*, 2003). Thus, the study has come up with the following hypothesis:

H₅: There will be a positive relationship between risk knowledge sharing and firm performance.

3.5.2.5 Staff Competence

Competence is simply the degree to which organisational members are skillful and reliable in performing their jobs (Dooley & Fryxell, 1999). Globally business firms are facing increasing stress as a result of intensive competition, rising customer

demands and technological advancement (Eicker *et al.*, 2008). The importance of staff competence is critical for organisations to remain competitive in the presence of global challenges. Thus, for companies to build a strategic advantage, they have to concentrate on staff competencies, which are significantly influenced by the skills and the knowledge of the employees (Eicker *et al.*, 2008). Dooley and Fryxell (1999) reported that the competence of a team member has significant positive effect on team decisions commitment. As such, Sweeting (2011) asserted that for risk management to be effective in organisations staff needs to be sufficiently qualified to carry out certain important tasks. Organisations are required to pay more attention to developing employee capability to acclimatize to a rapidly changing and highly risky environment (Hase, 2000). For a business firm to continuously advance and gain competitive advantage, staff competence is indispensable (Chich-Jen & Wang, 2010). Yaraghi and Langhe (2011) contended that employee educational skill is necessary for business organisations to understand the value relevance of risk management practices in organisations. The staff of risk management departments needs to have a requisite knowledge of the concept and methodology of ERM. Studies have reported that staff competence has a positive impact on firm's performance (Yaraghi & Langhe, 2011). Thus, the study has come up with the following hypothesis:

H₆: There will be a positive relationship between staff competence and firm performance.

3.5.2.6 Organisational Innovativeness

The concept of innovativeness can be traced to the Roger's diffusion of innovation theory (Sahin, 2006). Organisational innovativeness is defined as the degree to

which a business firm develops and launches new ideas faster than its competitor (Hurley & Hult, 1998; Wang *et al.*, 2004). Again, studies have discovered that the most innovative organisations are those that can genuinely deal with risk, in the long run. The essence of risk management is to seek out significant uncertainties and address them proactively (Hillson, 2005). Risk management becomes more active in organisations that consider both threats and opportunities together. Further, for the risk management process to be effective, it must embrace innovative and creative thinking in both risk identification and response (Hillson, 2005). Innovativeness is one of the essential features that an organisation requires for business survival. In fact, for business to survive, managers ought to perceive and manage risk in an innovative way (Hyrsky & Tuunanen, 1999). Innovativeness refers to the ability of organisations to perceive and manage risk both in a creative and novel way that will lead to business success.

Suliyanto and Rahab (2012) indicated that innovativeness has a significant effect on performance. Consistent with this, Mbizi, Hove, Thondhlana and Kakava (2013) reported in their findings that innovativeness is one major attribute that aid firms to remain competitive. A recent research effort in the Thailand context by Zumitzavan and Udchachone (2014) examined the relationship between organisational innovativeness and firm performance. The findings indicated that organisational innovativeness has a significant effect on firm performance. Innovativeness shows the firm's propensity to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes and development (Kamaruddeen *et al.*, 2010). Since innovativeness is all

about novelty and creativity of ideas, it is expected to improve firm performance.

Hence, the following hypothesis:

H₇: Organisational innovativeness is positively related to firm performance.

3.5.2.7 Leadership Role

The influence of leaders in the implementation of ERM initiative cannot be overemphasised. Effective leadership assists business firms to survive. It enables companies to achieve their missions. Thus, leadership is an essential constituent that has attracted the interest of professionals and academics. Leaders are the most prominent individuals in organisations. Leaders set the conditions for followers to carry out their duties effectively (Niskanen, 2015). For the leadership to be responsive, A strong support and commitment from the top management is a sine qua non for the achievement of any strategic objective (Carroll *et al.*, 2014; Kleffner *et al.*, 2003b). Developments in ERM have led to a convergence of ERM frameworks around the world. Risk management standards (e.g. COSO's 2004, ISO's 31000, etc.) have stressed the significance of leadership as a driving force for ERM efficiency (Beasley, Branson, & Pagach, 2015). In an exploratory study, Campbell (2015) stressed the importance of leadership in the effectiveness of risk management process both in the private and public organisation. The study contended that risk management decision is a continuous process that requires selfless and focus leadership for better performance. This study, therefore, argued that effective leadership will improve the efficiency of ERM programme which will effectively improve performance. Hence, the following hypothesis:

H₈: Leadership role is positively related to firm performance.

3.5.3 Moderating Effects of Board Equity Ownership on the relationship between ERM Framework, ERM Success Factors and Firm Performance

Practically, the implementation of ERM is associated with several challenges that have continued to undermine its effectiveness. Studies have suggested the need for organisations to be receptive to new ideas for them to improve their performance. Business organizations are required to be innovative for them to keep ahead of the rapidly changing customer needs and sustain a competitive advantage (Agarwal *et al.*, 2003). As Togok *et al.* (2014) put it, ERM remains a fertile subject for research because of inconsistencies in findings on the impact of ERM on firm's performance. To better explain the relationship, some scholars such as Gordon *et al.* (2009); Hafizuddin-Syah *et al.* (2014) suggested the inclusion of contingent variables.

Studies have affirmed that one of the major factors that lead to effective risk management in organisations is the existence of proper board monitoring initiative. For business firms to manage risk successfully, an ERM scheme must be viewed as an important board strategic policy decisions (COSO, 2004). Scholars (Carol Liu *et al.*, 2014; de Villiers *et al.*, 2011) have asserted that board of directors is expected to appraise business performance and also control the strategic ideas of business operations where they own up a substantial equity in the company

The influence of board equity ownership on firm performance is likely to change depending on the firm incentive package to the board of directors. Board equity ownership is an arrangement that allows Board of directors to own a percentage of assets in a corporation (Mayer, 2001). As the shareholding of the top management increased from minor to moderate values, the firm risk-taking ability may improve

(Wright, Kroll, Krug, & Pettus, 2007). In line with Wright *et al.* (2007) argument, this study assumes that as the board shareholdings increase from negligible to moderate values, the firm risk-taking capability will improve. Conversely, as the board shareholdings decrease to a considerable level, the influence of board on firm risk taking off will decrease significantly. Drawing on the agency theory, the managers may pursue actions that are inconsistent with the wealth maximization interests of owners (Demsetz & Lehn, 1985; Jensen & Meckling, 1976). In fact, the contract has put an obligation on the agent to act and ensure efficient management of business risks (Fama & Jensen, 1983).

Therefore, board equity ownership is expected to moderate the relationship between independent and the dependent variable in this study. Therefore, the researcher formulates the following hypotheses:

H₉: Board equity ownership moderates the positive relationship between ERM framework and firms' performance.

H₁₀: Board equity ownership moderates the positive relationship between compliance and firms' performance.

H₁₁: Board equity ownership moderates the positive relationship between risk culture and firms' performance.

H₁₂: Board equity ownership moderates the positive relationship between risk management information systems and firms' performance.

H₁₃: Board equity ownership moderates the positive relationship between risk knowledge sharing and firms' performance.

H₁₄: Board equity ownership moderates the positive relationship between staff competence and firms' performance.

H₁₅: Board equity ownership moderates the positive relationship between organisational innovativeness and firms' performance.

H₁₆: Board equity ownership moderates the positive relationship between leadership factor and firms' performance.

3.6 Conclusion

The chapter discussed the theories that underpinned the study. Three theories were used to explain the relationships among the variables. The study is underpinned by the theory of MPT which advanced the idea of managing risks in the form of a portfolio. Since ERM is a risk management strategy, that integrates all types of risks (financial, hazard, operational, and strategic risks) into a single collection. It is an approach that allows business organisations to assess, control finance and manage exposures from all sources with a view to increasing firm performance. Other supporting theories include agency theory and the resource-based view. Finally, the chapter developed the hypotheses for the study to test empirically. The next chapter will examine the methodology of the study.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses the methodological issues relating to the study. Research methodology is simply the philosophical organization of facts that shows how data is collected, analysed and interpreted (Brown, 2006). It gives an explicit explanation of the research design, the population of the study, sample size and the techniques of data analysis. Also, the chapter provides an explanation on the study unit of analysis, measurement of variables and data collection methods.

4.2 Research Design

The validity of every research study depends on the method used in carrying out the study. For any study to achieve consistency and logical arrangement of facts, the research design is indispensable. The research design is simply a plan for the systematic organisation, collection, and analysis of data (Bryman, 2004). A research design refers to the strategies for gathering and examination of data in a manner that will save time, cost and resources (Kothari, 2004). Also, Sekaran and Bougie (2010) defined research design as a process of collecting and analysing data to arrive at dependable solutions. As such, an embedded research design was used in carrying out the study. An embedded research design is used when the researcher's main objective is to embed a particular data set (for example, interview data) to provide a supportive position in a study that is primarily based on quantitative approach (Creswell & Clark, 2007). The idea behind the use of this research design stems from the belief that a particular data set is not sufficient to provide answers to all the research questions hence the need to use additional data source for a particular

research questions. Embedded research allows embracing qualitative or quantitative data in largely quantitative or qualitative studies. In this present study, one of the research questions was addressed using a qualitative approach.

The qualitative research question was embedded to play a supplemental role within the study design. It is assumed that embedding this qualitative research question into the quantitative would lead to an in-depth understanding of the process and benefits of ERM implementation from the perspectives of the companies themselves. This type of research design is often called a concurrent nested mixed method design. Yeasmin and Rahman (2012) argued that this type of design is more about widening the scope of research for a better understanding of problem situations. The first four research questions were addressed via the quantitative approach (survey) while the fifth research question was addressed through a qualitative approach (interview). Below is the schematic diagram that portrays how the research design process was carried out:

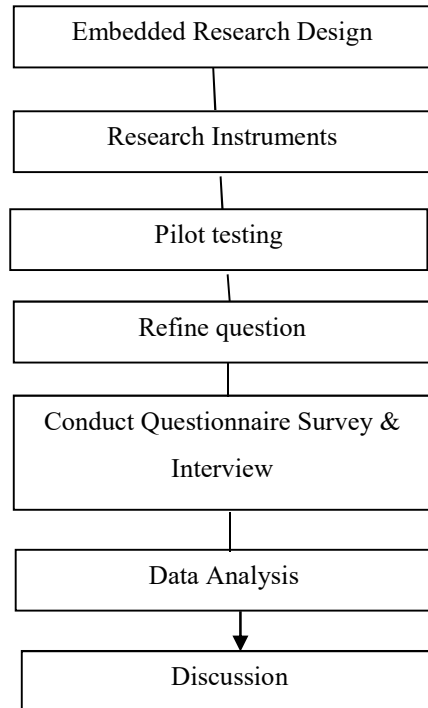


Figure 4.1
Research design process

4.2.1 Quantitative Approach

A quantitative approach refers to a situation where numerical data is used to represent the phenomenon being studied (Hair Jr *et al.*, 2010). It is a method for testing theories by examining the association between variables (Creswell, 2014). This study adopts a correlational (predictive) research design using a survey approach. This type of design is employed when a researcher is interested in establishing some form of association or ability of a particular variable (independent variable) to predict and outcome variable (dependent variable) (Kumar, 2011; Sekaran, 2003). The survey approach allows the researcher to collect quantitative data from the respondents and analyze using both descriptive and inferential statistics.

A survey method is used where a researcher is interested in assessing empirically the thoughts and opinions about a given social phenomenon via the collection of primary

data from the respondents (Fisher, 2010). A survey research provides a speedy way of making an accurate assessment of a given population (Zikmund, Babin, Carr, & Griffin, 2013). Thus, a survey method was considered appropriate for this study.

4.3 Population of the study

Population refers to the entire group of people, events or things of interest that the researcher intends to investigate (Sekaran and Bougie, 2013). Thus, the population for this study constitutes five categories of financial institutions in Nigeria. They include banks, insurance companies, pension fund administrators, primary mortgage banks, and Microfinance institutions in Nigeria; making a total of 256 firms (CBN, 2014c; NAICOM, 2010) (see Table 5.1).

The Nigerian financial sector had witnessed a series of economic reforms, which ranges from recapitalization, proliferation of corporate governance conventions to issues relating to risk management frameworks (Iganiga, 2010). The financial sector being the hub of productivity of the economy performs the vital role of intermediation and the pivot of monetary policy implementation (Olusegun *et al.*, 2013). The sector accounted for 61 percent gross financial assets of gross domestic product (GDP) in Nigeria (IMF, 2013). Recently, the industry has been characterised by poor risk management making the CBN to inject N620 billion to rescue ten banks from collapse (CBN, 2010). In fact, 75 percent market share of Nigerian stock markets is dominated by the ten largest banks in Nigeria (IMF, 2013). Hence, since ERM examines the various points of interactions among individual risks through integration, prioritization, and choosing of the best alternative to deal with risk (Lin *et al.*, 2012). The reasons for choosing the financial sector for this research are

enormous. As noted earlier, the financial sector is the most regulated industry in Nigeria. The industry is confronted with diverse and highly sophisticated risks that require a comprehensive risk management strategy. Inability to manage risk in this critical sector may have a devastating effect on the economy as a hub for efficient allocation of resources. Therefore, this study will examine the influence of ERM practices on the performance of firms in the Nigerian financial industry.

4.3.1 Sample Size and Power Analysis

In a survey research, determining an appropriate sample size is essential for the study to achieve a valid conclusion. For researchers to achieve high precision in making statistical inferences, they are expected to provide acceptable levels of statistical error that may arise due to sampling error problem. Researchers use power analysis to determine the likelihood of correctly rejecting the null hypothesis when it ought to be rejected (Hair Jr *et al.*, 2010). To determine the right sample size, Cohen, (1988) suggested that studies are likely to achieve an alpha level of 0.05 with power levels of 0.80. By interpretation, it simply means the possibility of rejecting the null hypothesis is four times as likely as a failure. While a higher level of power might be better, it is difficult to achieve power higher than 0.80 (Murphy, Myors, & Wolach, 2014). To have an idea of the right sample size to be used in this study a power analysis was conducted using G*Power 3.1.9.2 statistical software (Faul, Erdfelder, Lang, & Buchner, 2007).

Consequently, to determine the minimum sample size for this study, a *priori* power analysis was conducted on the basis of the parameters, which includes power (1- β error prob; 0.80), an alpha significance level (α error prob; 0.05), medium effect size f^2 (0.15) as suggested by Cohen (1988). The eight independent variables include ERM framework, compliance, risk culture, risk management information, risk knowledge sharing, staff competence, innovativeness, and leadership role. The output of the G*Power revealed that a minimum sample size of 109 is required to test the regression-based model.

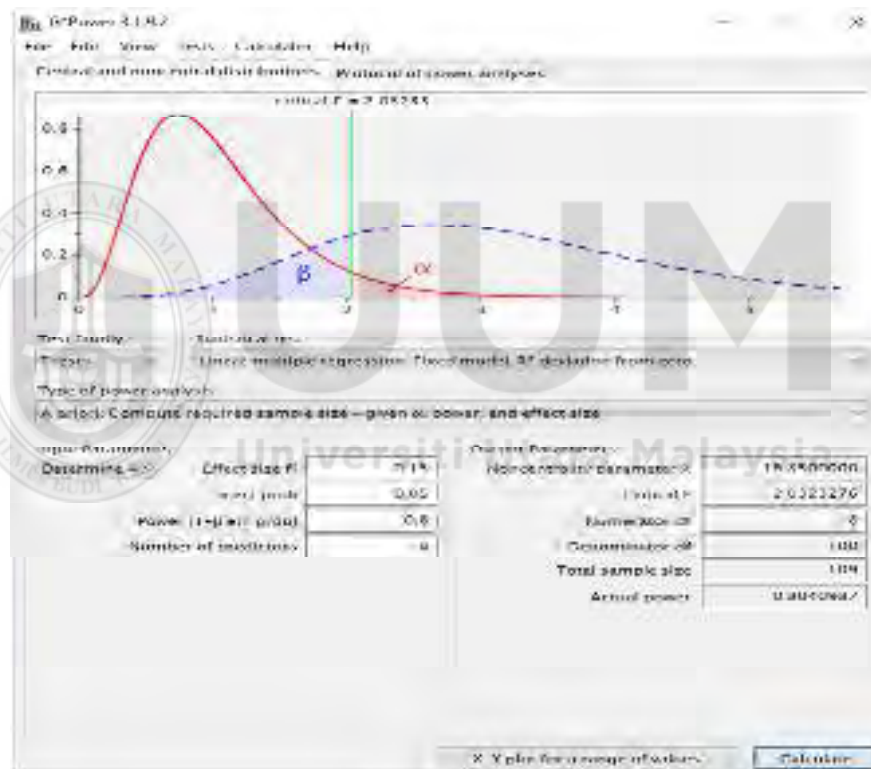


Figure 4.2

The Output of a Priori Power Analysis

Since the larger the sample sizes the better the possibility of achieving higher statistical significance, the researcher considers another method of determining higher sample size to further compliment the prior power analysis. Firstly, the researcher used the sample size table provided by Krejcie and Morgan, (1970) to

determine the sample size. According to the table, a population of between 250 and 259 has a sample size of 152. Also, the formula for computing sample size developed by Dillman (2007) was used to corroborate Krejcie and Morgan sample size table.

$$n = \frac{(Np)(p)(1-p)}{(Np-1)\left(\frac{B}{C}\right)^2 + (p)(1-p)}$$

Where,

n = the actual sample size

Np = size of population which is 256

p = The population proportion is 0.5

B = Sample error at 0.05 (5%)

C = Confidence level at 0.05 is 1.96.

Therefore, the sample of this study is calculated as follows

$$n = \frac{(256)(0.5)(1-0.5)}{(256-1)\left(\frac{0.05}{1.96}\right)^2 + (0.5)(1-0.5)}$$

$$n = \frac{64}{255 * 0.000651 + 0.25}$$

$$n = \frac{64}{0.416005}$$

$$n = 153.81$$

$$n \approx 154$$

However, achieving a sufficient response rate may not be easy in a social science research settings. Since researchers in social sciences and humanities commonly used data collection methods such as a survey, the response rates are usually below 100% (Bartlett, Kotrlik, & Higgins, 2001). Similarly, studies in the field of ERM have used small sample due to the difficulty in getting information from respondents.

For example, Kleffner, Lee, and McGannon (2003) used a sample of 118; Arena, Arnaboldi and Azzone (2010) utilised a sample size of 13 companies; while Baxter, Bedard, Hoitash and Yezegel (2013) used 165 firms to examine the value relevance of ERM in organisations. Following the suggestion of Salkind (1997), the study increased the sample by 50% to cushion the possible effect of poor response rate. Hence, the study utilized 231 firms as the sample size of the study. Considering the fact that banks and insurance companies dominate the Nigerian financial sector, a disproportionate stratified sampling was used to determine the number of companies to be selected from each stratum. Below is the breakdown of the study sample size:

Table 4.1
Population

S/No	Name of Financial Firms	No of companies	Disproportion
1	Commercial Banks	21	21
2	Insurance Companies	58	53
3	Primary Mortgage Banks	40	36
4	Pension Fund Administrators	25	23
5	Microfinance Companies	112	98
Total		256	231

4.3.2 Sampling Technique

Sampling refers to the process of selecting an adequate number of the right subjects from a given population (Sekaran & Bougie, 2013). In this study, a stratified sampling technique was utilized. Saunders *et al.* (2009) defined stratified sampling as a procedure of dividing the population into two or more relevant strata based on some attributes. In other words, a stratum is a group of individuals or subjects that

are similar in some way (homogenous) that is essential to the study. Stratified sampling as an aspect of probability sampling requires three stages. Firstly, the researcher needs to divide the population into strata. Secondly, the researcher will then choose a separate simple random sample from each stratum and finally combine these simple random samples to form a stratified sample (Sekaran & Bougie, 2013).

Therefore, this study employed stratified sampling technique and divided the financial sector into five strata as represented by each sub-sector of the Nigerian financial sector. Population sample can be stratified according to the line of business of each sector (Okafor, 2008). Stratified sampling has advantages in term of accuracy, face to face contact, comparison among strata and representativeness (Saunders *et al.*, 2009). Using the list of the firms provided by NAICOM, CBN and PENCOM, 231 questionnaires were distributed to the randomly selected target respondents (CRO, Heads of risk management and top level managers). Samples from each stratum was chosen with the help of random function generated with the help of Microsoft Word Excel 2013 in accordance with Saunders *et al.* (2009). Since there is significant disparity between the sectors, the study used disproportionate sampling to allocate the 231 questionnaires (see Table 4.1 above).

4.4 Unit of Analysis

The unit of analysis for this study is organization. The study is to examine the effect of ERM practices on firm performance. It means CRO, heads of risk management departments or top level managers who has the capacity and experience to handle key management issues served as the respondents for this study.

4.5 Level of Measurement

In this study, the data was measured using Likert scale. The questionnaires were answered on a five-point Likert scale. The Likert scale was considered appropriate for this study due to the nature of the information respondents were required to provide (Alreck & Settle, 1995). In line with this, Krosnick and Fabrigar (1997) suggested that a 5 point Likert scale is more reliable than higher or lower scales and scale with no midpoint may increase the measurement error. In the same way, Dawes (2008) states that a 5-point scale is likely to produce better results. Below are the constructs and the measurement items:

Table 4.2
Construct, Sources and number of Items

S/n	Construct	Source	No of Items
1.	ERM Framework	Lai (2012)	14
2.	BEO	Ammann <i>et al.</i> (2011)	7
3.	Compliance	Manab <i>et al.</i> (2012)	9
4.	Risk Culture	KPMG, 2011	13
5.	Risk management Inf. Sys	Rodriguez & Edwards (2009)	5
6.	Risk Knowledge Sharing	Rodriguez & Edwards (2009)	5

Table 4.2 (Table Continued)

S/n	Construct	Source	No of Items
7.	Innovativeness	Lin <i>et al.</i> (2008)	6
8.	Staff Competence	Dooley and Fryxell (1999)	5
9	Leadership Factor	Yazid <i>et al.</i> (2011)	6
10.	Firm Performance	Rettab, Brik, and Mellahi (2009); Gates, et al. (2012)	12
Total			82
Refer to the research questionnaire			

4.6 Reliability and Validity of the Questionnaire

Reliability refers to a test of how consistent and stable are instruments used in the study measures the particular construct they are expected to measure (Sekaran & Bougie, 2013). On the other hand, validity is the extent to which an instrument measures what it is supposed to measure (Kothari, 2004). Kothari further asserted that a valid instrument is always reliable. To ascertain the validity and the reliability of the items, a step by step process of assessing the validity was used. The questionnaire was subjected to face validity, content validity and construct validity, each of which facilitates the construction of an effective questionnaire.

The face validity is meant to ensure that the items selected to measure a particular construct measure it efficiently (Sekaran & Bougie, 2013). This aspect of validity is achieved often through expert opinions. In this study, the researcher has sought the view of academicians and professionals from the industry to ensure clarity, understandability and the ability of the questionnaire items to represent the domain of the study. Also, the essence of content validity is to guarantee the adequacy and the representativeness of the study items in measuring the construct (Kothari, 2004; Sekaran & Bougie, 2013). It is a function of how well the dimension and the

elements of a construct are represented. Content validity is achieved through experts' opinion concerning the adequacy, suitability, content, and arrangement of the items that are designed to measure the constructs of a study (Sekaran & Bougie, 2013). To achieve this, a draft of the questionnaire items of this research was distributed to academicians and professionals both in Malaysia and Nigeria for advice and inputs on the clarity and the adequacy of the questionnaire elements.

4.7.1 Pilot Study

The researcher conducted a pilot test to test the validity and reliability of the survey instruments and to have an idea about the anticipated problems and make an adjustment in the actual research work. After subjecting the instruments into content and face validity an enhanced version of the questionnaire was distributed for the pilot test. For a pilot test, the researcher may decide to use a small sample size to examine the reliability of the measures (Fink, 2003). Hence, a total of 45 copies of the questionnaires were administered personally to some various financial firms. Out of which 30 usable questionnaires were used in the pilot test. The administration of the questionnaires took place within two weeks in the month of August.

4.7.1.1 Reliability Test

To ascertain the reliability of the study measures, the Cronbach's alpha coefficient was used to examine the extent to which the items in a scale hang together (Sekaran & Bougie, 2013). After running reliability test using SPSS v20, it was found that the corrected item-total correlations were below 0.3. Hence, 5 items for ERM framework, 1 items for compliance, 5 items for risk culture and 1 item for risk management information were deleted. On the overall the remaining items had a

high Cronbach's alpha ranging from 0.720 to 0.930. According to Sekaran and Bougie (2010), a Cronbach's alpha coefficient of 0.70 or higher indicates a good reliability.

Table 4.3
Reliability Test

S/No	Constructs	Number of Items	Cronbach's Alpha
1	ERM Framework	9	0.749
2	BEO	7	0.930
3	Compliance	8	0.808
4	RMI	4	0.751
5	Risk Culture	8	0.746
6	Risk Knowledge Sharing	5	0.720
7	Staff Competence	5	0.843
8	Innovativeness	6	0.869
9	Leadership role	6	0.870
10	Financial Performance	6	0.722
11	Non-financial Performance	6	0.858
Total		70	

Table 4.3 presents the summary of the reliability results of the measurement items. Apparently, the results of the pilot test provide evidence that the Cronbach's alpha values for the remaining items are reliable for all the study variables. Thus, 70 items were used in the main study.

4.8 Data Collection Method

There are several sources of data collection in research. For this research work, data was collected through self-administrated structured questionnaires. Several ERM studies have used survey instruments such as questionnaires to elicit data from the respondents (Gates *et al.*, 2012; Manab *et al.*, 2012). The researcher utilized closed-ended questionnaires as the data collection instruments. This type of questionnaire is

appropriate for a quantitative study for easier coding, tabulation, and analysis (Dawson, 2007). In this present study, data was collected at a one time period, hence, the research is a cross-sectional study.

To ensure efficient distribution of questionnaires, the researcher employed research assistants who assisted in the administration of the questionnaires. The researcher used an efficient method of questionnaire distribution ensure timely completion and collection of the distributed questionnaires. A follow-up (both physical contact and telephone calls) was used to expedite the collection process.

4.8.1 Data Collection Process

In this study, the data collection started in the month of August 2015 after the pilot test. Precisely, the data collection was carried out between the 30th August 2015 and 28th November 2015. Firstly, an official letter was collected from the Othman Yeop Abdullah Graduate School of Business (OYAGSB), introducing the researcher and also explaining the purpose of the study. The letter was used to seek the cooperation of the respondents. The questionnaire contained an introduction page that clearly highlights the purpose of carrying out the study and further emphasized the confidentiality of the respondents.

The period for the survey was divided into two. The first period which was considered early response period comprised all questionnaires collected between 30th August, 2015 and 27th October 2015. Specifically, 111 usable questionnaires were collected during the early response period. Like questionnaires that were collected between 28th October 2015 and 21st November 2015 were termed as the

late response period. Consequently, 52 usable questionnaires were collected within the late response period. In a nutshell, a total of 163 usable questionnaires were collected.

4.9 Qualitative Approach

Qualitative research refers to a situation where the researcher makes an attempt to understand a particular organizational reality and occurring phenomena from the perspective of those involved (Jonker & Pennink, 2010). It is simply a process of collecting, analyzing, and interpreting data by observing what people do and say (Baxter & Susan, 2008). It is a research effort in which the researcher usually makes knowledge claims based primarily on constructivist perspectives (i.e. multiple meaning of individual experiences over time). For example, the strategy of inquiry such as interview is used to collect open-ended data from the respondents (Creswell, 2007). Baxter and Susan (2008) reported that a qualitative approach should be considered when the concern of the study is to answer “why” and “how” research questions. In this present study, interview was used to address the fifth research question, which sought to examine why do financial institutions implement ERM? The essence is to extend the frontiers of knowledge by examining detail procedures and constraints associated with the implementation of ERM practices in the Nigerian financial industry. Consequently, the interview was used as a supplementary to the quantitative approach, in the form of data triangulation by embedding the interview into the quantitative approach. This approach has further enabled the researcher to discover additional knowledge in the area of interest (Sekaran & Bougie, 2013).

4.9.1 Sample Size Selection

According to Onwuegbuzie and Collins (2007), for a study that utilizes interview, a sample size of 5 or even less may be reasonable to give a moderate effect size and better statistical power. Merrriam (2009) opined that non-probability sampling is used on the assumption that the investigator desires to find out, understand and gain insight; hence, the aim is to select a sample of which most can be investigated. In this study, the selection of the companies was based on willingness to participate. Three financial institutions (two insurance companies and a bank) participated in the interview and have enabled the researcher to identify some important gaps that affect the implementation of ERM practices in Nigerian financial industry.

4.10 Data Analysis

Data analysis is a statistical procedure through which researchers analyse data, test research hypotheses, and subsequently, refine theories. This study employed both descriptive and inferential statistics to answer the research questions. Preliminary data analysis was conducted to identify possible missing data points, outliers, unengaged responses and other data entry errors (Saunders *et al.*, 2009). Partial Least Squares Structural Equation Modelling (PLS-SEM) was used due to the nature of the research model. PLS-SEM is more suitable for a model with a high number of exogenous latent variables explaining a small number of latent endogenous variables (Haenlein & Kaplan, 2004; Hair, Sarstedt, Ringle, & Mena, 2012). PLS-SEM is a well-enhanced research tool use in social sciences. It is a variance-based technique suitable for interaction analysis (Chin, Marcolin, & Newsted, 2003; Esposito Vinzi, Trinchera, & Amato, 2010). PLS incorporates several statistical techniques such as factor analysis, multiple regression, redundancy analysis and correlations without

inflating the t-value as it would happened if each of these analysis was conducted separately. Lowry and Gaskin (2014) contended that PLS-SEM is suitable for situations where the researcher is dealing with complex model (moderation or mediation), the variables are latent and the need to account for estimation error. To ensure fixed scale construction never occurred, PLS algorithm allows each indicator to vary on the basis of its contribution to the composite score. Similarly, PLS-SEM is more robust in handling non-normal data because it has flexible assumptions about the normality of the distribution of variables (Henseler, Ringle, & Sinkovics, 2009). It is also used for exploratory studies (ERM is still at its infancy stage). Therefore, this study used SmartPLS 2.0 (Ringle, Wende, & Will, 2005) for its robustness and clearer display of the interrelationship among the study variables.

Miles and Huberman (as cited in Sekaran & Bougie, 2013) reported that qualitative data analysis involve three steps: Data reduction, data display, and drawing conclusions. Merriam (2009) asserted that there is no particular format for the analysis of interview data. The data analysis is not a linear process. For example, data coding may help the researcher to develop simultaneously ideas on how the data could be presented and some preliminary conclusions drawn. For the interview aspects of this study, thematic analysis was used and frequency and proportions were used to clearly represent the themes and analyze the data with the aid of Microsoft word excel spreadsheet 2013.

4.11 Conclusion

The chapter discussed the research design adopted in the study. For the quantitative aspect, a stratified sampling method was used in selecting the sample from the

population and survey questionnaire was administered with the help of research assistants. The study samples for the study are largely located in Abuja (the federal capital) and Lagos (the former federal capital and the Nigerian commercial center). Questionnaires were distributed at the firm's head offices. Additionally, the study used SPSS v20 for data cleaning, descriptive statistics, reliability and validity tests. SmartPLS 2.0 was used for the structural path analysis. Furthermore, the fifth research question was addressed using interview as complementary to the survey design.



CHAPTER FIVE

ANALYSIS AND FINDINGS

5.1 Introduction

This chapter presents the research results of the study. In summary, the chapter comprises the following sections: Firstly, the section consists of response rate, non-response bias test, common method bias test and the descriptive analysis of the ERM practices of financial institutions in Nigeria. In addition, the section presents a descriptive analysis of the study variables. Secondly, data screening and preliminary analysis were conducted to determine the quality of the data as well as the reliability and validity of the measures used in the study. Thirdly, the chapter presents the results of this study in two forms: i.e. the assessment of the measurement model which was meant to determine the reliability and validity of the measurement items. It then followed by the assessment of the structural model which determines the test of hypotheses, coefficients of determination, effect size, and the model predictive relevance. Finally, the chapter presents a summary of the study findings.

5.2 Response Rate

In this study, questionnaires were administered to 231 companies comprising insurance, banks, pension fund administration firms, mortgage institutions and microfinance institutions in Nigeria. The category of respondents eligible to respond to the questionnaires includes Chief Risk Officers, Chief Financial Officers, Heads of risk management departments and other top level managers in the organizations. Since the objective of this study is to examine the enterprise risk management practices of financial institutions in Nigeria, the questionnaires were distributed to

the various head offices located either in Abuja (the capital city of Nigeria) and Lagos (the former capital city of the country). Three research assistants were employed to assist in the administration of the questionnaires and to ensure the achievement of high response rate. An introductory letter was attached to the questionnaire and sent to each and every organisation to explain the importance of the research and the need for them to respond within a stipulated time frame as suggested by Tharenou, Donohue and Cooper (2007). Also, following the suggestion of Sekaran and Bougie (2013), personal follow-up visits were made as reminders to the organisations to increase the study response rate.

Consequently, 168 questionnaires were returned out of the 231 distributed questionnaires to the randomly selected firms within the Nigerian financial sector. As such, a high response rate of 72.72% was achieved. Nevertheless, out of the 168 questionnaires obtained, 163 surveys turn out to be valid for further analysis representing a response rate of 70.56%. Out of the 168 returned questionnaires, two are unengaged, and three are multivariate outliers hence, removed from the analysis. The response rate is comparable with other previous studies that reported between 60% and 82% (Augustine, Ajayi, Ade, & Adakole, 2013; Dabari & Saidin, 2015; Zhao, Hwang, & Low, 2014). According to Nakpodia, Ayo and Adomi (2007), it is possible to achieve a high response rate for survey research in Nigeria depending on the nature of the unit of analysis. Hence, the response rate for this study is within the average response rate for survey research in Nigeria.

Table 5.1
Response Rate of the Questionnaires

Response	Banks	Insurance	Pension	Mortgage	Microfinance companies	Total
No. of distributed questionnaires	21	55	21	36	98	231
Returned questionnaires	20	49	18	28	53	168
Returned and usable questionnaires	20	49	18	26	50	163
Returned and excluded questionnaires	-	-	-	2	3	5
Response rate	95.23%	89.09%	85.71%	77.77%	54.08%	72.72%
Usable response rate	95.23%	89.09%	85.71%	72.22%	51.02%	70.56%

5.3 Data Screening and Preliminary Analysis

Data screening is the process of ensuring that collected data are clean and ready for further analysis. In structural equation modelling, data cleaning constitutes one of the essential steps that a researcher embark upon before engaging into real analysis.

Conducting the data cleaning is important because it enables researchers to identify the possibility of violating any fundamental assumptions associated with the multivariate techniques (Hair, Hult, Ringle, & Sarstedt, 2014). Specifically, to achieve a better research results data screening was conducted to identify missing data, outliers, normality and multicollinearity issues (Tabachnick & Fidell, 2013). Before the initial data cleaning, all the 168 returned questionnaires were coded.

5.3.1 Analysis of Missing Data

Missing data arises when respondents either intentionally or unintentionally refuse to answer one or more questions in a research situation (Hair *et al.*, 2014). Several measures can be used to prevent or reduce the effects of missing data in research. One of the strategies adopted in this study was a quick check at the collection point to spot quickly the missing responses, and where such missing responses exist, the researcher appealed to the respondents to complete the missing points.

Again, missing responses that escape the attention of the respondents were later replaced using appropriate imputation technique. Scholars contended that missing values can be replaced where they constitute less than 5% per item (Sarstedt, Ringle, Smith, Reams, & Hair, 2014). In the initial dataset, 36 randomly data points out of the 14,507 data points were randomly missed by the respondents constituting about .25%. In this study, the percentage of missing values in each of the items range from 1.2 % to 2.5%, hence all the study items had less than 5% missing values. The random missing values were replaced using the median imputation technique in SPSS V20 (Gaskin, 2012). Since the mean value is usually affected by the presence of outliers, it is better to use the median imputation method, especially where a given distribution is relatively skewed (Acuna & Rodriguez, 2004).

5.3.2 Analysis of Outliers

An outlier is simply a case with an extreme value on one variable (univariate outlier) or when a combination of scores from two or more variables represent an outlier (multivariate outlier) compared to other combinations (Tabachnick & Fidell, 2013). The majority of statistical methods are sensitive to the impact of outliers. Hence, it is

recommended that a researcher identifies and makes decisions about how to deal with outliers (Martin & Bridgmon, 2012). Outliers can arise in any distribution, and they indicate either measurement error or that the population is highly abnormally distributed.(Hair, Black, Babin, & Anderson, 2010). Tabachnick and Fidell (2013) asserted that the presence of outliers may distort statistical parameters and might lead to a spurious result. Tabachnick and Fidell (2013) recommended the examination of univariate outliers using standardized values with a cut-off of ± 3.29 ($p < .001$) and multivariate outliers using Mahalanobis distance.

Using IBM SPSS v20 command, to detect multivariate outlier requires the evaluation of the probability of Mahalanobis. For a Mahalanobis distance to be an indicative of multivariate outlier the probability associated with the Mahalanobis distance from chi-square distribution has to be less than 0.001 ($P < 0.001$). Following this methodology, three multivariate outliers were identified and deleted from the subsequent analysis. Finally, the study utilized 163 questionnaires for the final analysis.

5.3.3 Normality Test

The normality of data is among the most significant preliminary issues in every multivariate analysis. The assumption of normality is one of the fundamental assumptions for structural equation modelling (Hair *et al.*, 2010). Previous researchers do not seem to care about data normality since SmartPLS can handle non-normally distributed data through bootstrapping process (Reinartz, Haenlein, & Henseler, 2009). However, recent studies indicated that for a better estimation in SmartPLS, the data ought to be approximately normally distributed. Hair, Sarstedt,

Ringle and Mena (2012) recommended the need for researchers to perform normality test because highly skewed data can inflate the bootstrapped standard error estimate. Examining the skewness and kurtosis is one of the most efficient approaches to detect normality (Field, 2009; Pallant, 2011; Tabachnick & Fidell, 2013). Kline (2011) reported that the “absolute value” of skewness greater than 3 and Kurtosis value greater than 10 may indicate a problem. However, Hair *et al.* (2014) contended that the “absolute value” of skewness and kurtosis of greater than 1 are indicative of non-normal data. In this present study, the absolute values of skewness and kurtosis of all the item are less than one. Again, Field (2009) suggested the use of the graphical method such as a histogram and normal probability plots to show the violation of normality clause. The following diagram clearly indicated that the data is approximately normally distributed as all the bars on the histogram indicate some level of symmetry.

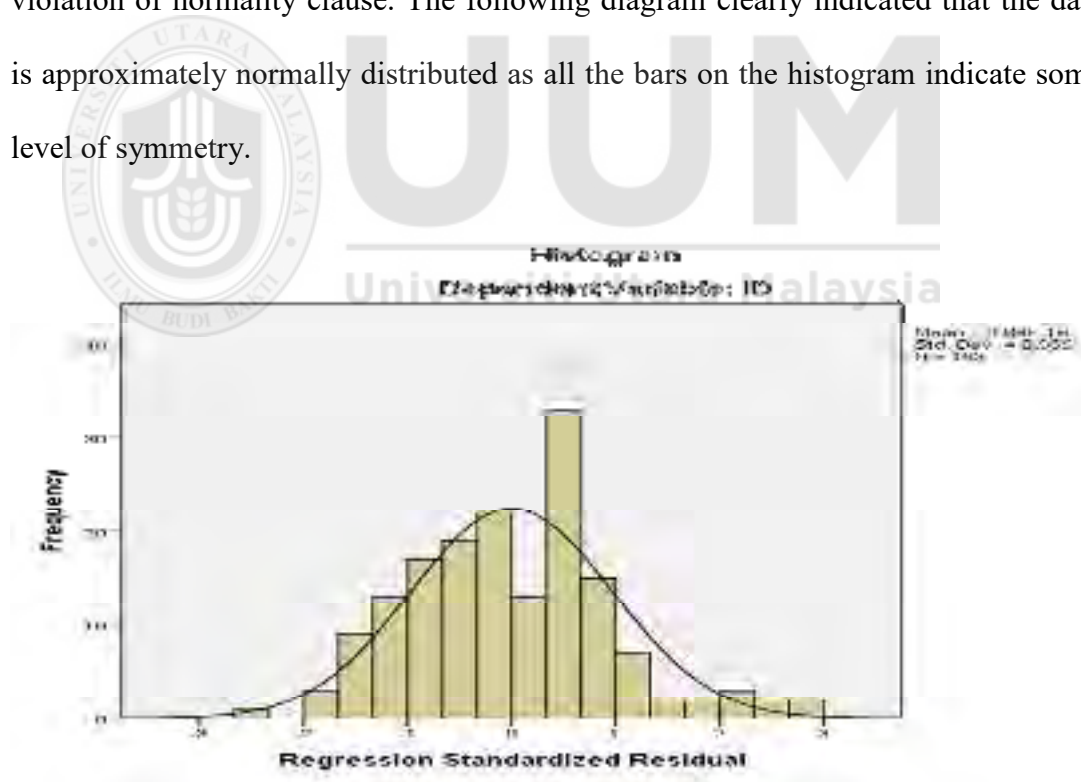


Figure 5.1
Histogram

5.3.4 Multicollinearity

Multicollinearity is a problem that arises in the correlation matrix when variables are too highly (i.e. 0.90 and above) correlated (Pallant, 2011; Tabachnick & Fidell, 2013). It refers to a relationship between two or more independent variables of sufficient magnitude that has the potential of adversely affecting regression parameters. The presence of multicollinearity increases the standard error of regression estimates and makes the variables of interest insignificant. Hair *et al.*(2014) asserted that a multicollinearity among variables exists when the tolerance level is below 0.20, and the variance inflation factor (VIF) is above 5. Therefore, in this study, two approaches were used to examine the presence of multicollinearity. Firstly, an examination of the correlation matrix to identified exogenous variables that are highly correlated. Secondly, the researcher examined the tolerance and the VIF values for all the exogenous variables. Examining the correlation matrix revealed that none of the predictor variables are highly correlated. Table 5.2 shows no multicollinearity problems among the exogenous variables.

Table 5. 2
Correlations among the Exogenous Variables

	RMF	BEO	COP	RMI	RMC	RKS	OIN	SCP	LFS
RMF	1								
BEO	.134	1							
COP	-.008	.118	1						
RMI	-.031	-.037	.099	1					
RMC	.234	-.134	.086	.171	1				
RKS	.315	.132	.091	.032	.266	1			
OIN	-.025	-.133	-.065	.162	.338	-.015	1		
SCP	-.124	-.427	-.064	-.065	.055	-.041	.208	1	
LFS	.168	-.170	.206	.050	.109	-.003	.043	.077	1

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, C O P =Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factor, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

Also, the study conducted collinearity diagnostic test available in SPSS to examine the tolerance and the VIF values respectively. As recommended, this is the most relevant and reliable test of multicollinearity (Hair Jr. *et al.*, 2010). From Table 5.3, it is clear that the tolerance ranges between 0.741 and 0.932 substantially greater than 0.2 and the VIF range from 1.144 to 1.353. Consequently, Table 5.3 below shows that multicollinearity problem does not exist in this study.

Table 5.3
Tolerance and Variance Inflation Factors (VIF)

Constructs	Tolerance	VIF
RMF	.806	1.241
BEO	.739	1.353
COP	.897	1.115
RMI	.932	1.073
RMC	.741	1.349
RKS	.831	1.203
OIN	.815	1.227
SCP	.775	1.290
LFS	.874	1.144

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factor, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

5.4 Non-response Bias Test

Non-response occurs in research surveys in a situation where someone in a study sample does not respond to questionnaire or interview. Okafor (2012) defined non-response rate as the failure of researchers to collect data from a sample unit in the target population. It is normal for researchers to experience this kind of problem (Greener, 2008). A situation like this could lead to non- response bias. Non-response bias refers to a situation where the responses of respondents differ substantially and meaningfully from those respondents who did not respond. The problem of non-response errors arises where the responses of those who answered the questionnaire differ from those who declined to respond (Armstrong & Overton, 1977). Armstrong

and Overton (1977) proposed a time-trend extrapolation method of comparing the early with the late respondents. Late respondents portray similar features with non-respondents (Armstrong & Overton, 1977; Miller & Smith, 1983). It is important to note that the size of non-response rate may practically indicate the reliability and quality of data collected for research (Okafor, 2012).

Therefore, non-response bias may potentially affect the ability of the researcher to arrive at a general conclusion concerning the target population. Hence, the need to assess the non-response bias as part of the preliminary analysis is critical for efficient data management. As part of the initial research planning, the sample size of the study was increased by 50% as proposed by Salkind (1997) to reduce the problem of non-response rate.

Also, in spite of the high rate of response rate experience in this study, a comparative analysis was carried out between early and late respondents using the latent constructs. Following Miller and Smith (1983) suggestions, this study categorized the respondents into two groups: those that responded first and those that returned the questionnaires later. Levene's test for equality of variance was used to determine the difference between the responses of the early and late respondents. Moreover, to reduce the influence of non-response bias, scholars recommended a minimum response rate of 50% (Lindner & Wingenbach, 2002). One hundred and eleven (111) respondents, representing 67.68% responded within the first 57 days are considered the first group while the remaining 52 respondents representing 31.90% answered after the first 57 days.

Levine's test was carried out to identify the possibility of non-response bias on the study variables. The latent constructs include ERM framework, ERM success factors (compliance, risk culture, risk management information, risk knowledge sharing, staff competence, organisational innovativeness and leadership factors), the moderating variable (board equity ownership) and the firm performance (financial and non-financial). Table 5.2 presents the results of independent-sample t-test.

Table 5.4

Results of Independent-Samples T-test for Non-Response Bias

Results of Independent Samples T test for Non-Response Bias						
					Levene's Test for Equality of Variances	
Variables	Group	N	Mean	SD	F	Sig.
RMF	Early Response	111	4.1391	.44883	1.101	.296
	Late Response	52	3.9509	.40357		
BEO	Early Response	111	3.9022	.75075		
	Late Response	52	3.5247	.80933		
COP	Early Response	111	3.2723	1.23787	3.238	.074
	Late Response	52	3.2655	1.12999		
RMI	Early Response	111	4.3784	.50437	.306	.581
	Early Response	111	4.2027	.36543		
RMC	Late Response	52	4.1563	.34556	.002	.968

Table 5.4 (Table Continued)

Variables	Group	N	Mean	SD	Levene's Test for Equality of Variances	
					F	Sig.
RKS	Early	111	3.9640	.51040	.100	.752
	Response					
	Late	52	3.9115	.50938	1.709	.193
	Response					
SCP	Early	111	4.0060	.63799	1.790	.183
	Response					
	Late	52	4.1506	.57381	.439	.509
	Response					
OIN	Early	111	2.9225	.72968	.005	.945
	Response					
	Late	52	4.2038	.52914	.39197	.631
	Response					
LFS	Early	111	3.3333	.80173	.232	.631
	Response					
	Late	52	3.4207	.82472	.41920	.945
	Response					
FFP	Early	111	4.2117	.41920	.005	.945
	Response					
	Late	52	4.3013	.39197	.232	.631
	Response					
NFP	Early	111	4.1967	.42176	.232	.631
	Response					
	Late	52	4.1154	.45678	.232	.631
	Response					

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, COP= Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

As indicated in Table 5.4 above, the Levine's test revealed that the study did not violate the equality assumption as the p-values for each of the latent construct is greater than 0.05 (Field, 2009; Pallant, 2011). Consequently, it can be concluded that non-response bias was not an issue in this research work. Moreover, the response

rate for this study is 70.56%. According to Lindner and Wingenbach (2002), studies with high response rate may not have the problem of non-response bias.

5.5 Common Method Bias Test

Empirical studies usually utilize a single survey source for both the endogenous and exogenous variables (Eichhorn, 2014). In most circumstances, the survey instruments subject respondents to some form of prejudice. In this study, the data on both the dependent and the independent variables were obtained at the same time (cross-sectional) with the same instrument, and this could create a common method variance problems. Common method variance (CMV) refers to a systematic error variance observed among variables in which data was obtained through a single method and source (Richardson, Simmering, & Sturman, 2009). Common method variance refers to that variation that relates to the measurement procedure as opposed to the actual variables the measures represent (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Hence, scholars have agreed that CMV constitutes major issues in behavioural research and need to be examined (Lindell & Whitney, 2001; Podsakoff *et al.*, 2003). Therefore, this study conducted a Harman's single factor test suggested by Podsakoff and Organ (1986) for examining CMV to detect the presence of CMV among the study variables. Under this approach, exploratory factor analysis is conducted on the study variables using un-rotated factor to identify the number of factors that are essential to account for the variance in the variables (Podsakoff *et al.*, 2003). The assumption is that if a significant amount of CMV exists, a single factor may account for most of the covariance in the predictor and outcome variables.

In this study, Harman's single factor test was conducted on all the items (70 items) of the study. The results of the analysis produced eight different factors, and only 11% of the total variance was accounted by a single factor, confirming that CMV is not an issue of concern in this present study. In fact, the results of the analysis produced eight factors with a cumulative variance explained of 48.12% (see appendix D). According to Lowry and Gaskin, (2014); Podsakoff *et al.*(2003); and Podsakoff and Organ (1986), researchers experience CMV when a single factor among the variables accounts for more than 50% of the variance. Therefore, it can be concluded that CMV is not a primary concern in this study and is improbable to inflate relationships between the study variables.

5.6 ERM Practices of the Nigeria Financial Institutions

The first objective of this study is to examine the risk management practices of financial institutions in Nigeria. This section starts with the examination of questionnaires distributed across the study sample. As earlier mentioned in chapter 4, the study utilized a stratified sampling technique to draw the study sample. The profile of the respondents was also presented to ascertain their eligibility to respond to the questionnaires. The first objective was achieved through a descriptive analysis of the firm's risk management practices. In addition, a chi-square test was used to examine whether there is significant relationship in the frequency distributions of the categorical variables.

5.6.1 Types of Institutions

Table 5.5 below indicated the number of usable questionnaires retrieved from the various segments of the study sample. The sample comprised 20 banks representing

12.30%, 49 insurance companies representing 30.10% of the total sample of the study. Similarly, the pension and mortgage institutions represent 11% and 16% of the study sample respectively. Finally, the microfinance companies represent 30.70% of the study sample. On the overall, it is clear that these institutions give clear representations of the various sub-sectors of the Nigerian financial industry.

Table 5.5
Classification of Sub-Sector

Institutions	Frequency	Percentage
Bank	20	12.3
Insurance	49	30.1
Pension	18	11.0
Mortgage	26	16.0
Microfinance	50	30.7
Total	163	100.0

5.6.2 ERM Priority

Since one of the objectives of this study is to examine the ERM practices of the Nigerian financial sector, it is necessary to have an idea concerning the companies' priorities with respect to risk management programs. The frequency distribution of the study sample indicated that 99.4% of the entire sample size paid considerable attention to related risk management issues. Out of the entire study sample, only a single company representing 0.6% indicated that risk management practices were not a major priority for the organisation.

Table 5.6
ERM Priority

Priority	Frequency	Percent
Risk Management as firm's priority	162	99.4
Risk Management not a priority	1	.6
Total	163	100.0

It is not surprising considering the fact that the study focuses on financial industry and risk is one of the major focal points that undermined the operating efficiency of firms in the industry. It can, therefore, be inferred that there is no difference across the firms on the issue of risk management as a key priority to achieving business objectives.

5.6.3 Position of the Person in Charge of ERM

First, to ensure that those who answered the questionnaires were eligible to do so, the respondents were requested to indicate their position as provided in the survey instrument. The descriptive analysis indicated that 29 respondents representing 17.80% of the total respondents fall within the rank of chief risk officers. Also, 62 respondents representing 38% of the total respondents fall within the rank of risk officers; while 27 respondents representing 16.60% are within the rank of chief financial officers. Finally, 45 respondents representing 27.60% are within the ranks of top-level managers.

Table 5.7
Ranks of Persons in Charge of ERM Program

Person in charge of ERM initiative	Frequency	Percentage
Chief Risk Officer (CRO)	29	17.80
Risk Officer (RO)	62	38.00
Chief financial Officer (CFO)	27	16.60
Top Level Manager (TLM)	45	27.60
Total	163	100.00

$\chi^2(3, N = 163) = 19.55, P < 0.05$

The distribution of the questionnaires indicated that respondents within the rank of CRO and RO constitute the largest proportion of those that oversee ERM program. Thus, it is clear that the composition of those who filled the questionnaires possessed the requisite knowledge and capacity to provide sound information regarding risk management practices in the organisations.

In addition, the data was further analyzed using a chi-square goodness of fit test to establish whether there is a significant difference in the frequency distribution of the ranks of those who oversee ERM program in their organisations. From the chi-square value (see Table 5.7), it can be concluded that there is a significant difference in the positions of those assigned the responsibility to oversee the affairs of ERM program in the various institutions.

5.6.4 Work Experience

Also, on the work experience of the respondents, 23 respondents representing 14.10% have five years and below work experience. Further, 74 respondents representing 45.40% indicated that they have between 6 to 10 years work experience while 66 respondents representing 40.50% have 11 and above years of work experience. Based on these proportions, it can be deduced that the respondents have

the requisite work experience to provide the desired leadership that can enhance ERM effectiveness in the organisations.

Table 5.8
Work Experience

Work Experience	Frequency	Percentages
1-5 years	23	14.10
6-10 years	74	45.40
11 years and above	66	40.50
Total	163	100.00

$$\chi^2(2, N = 163) = 27.69, P < 0.05$$

Similarly, the chi-square goodness of fit test indicated a significant difference in the work experience of those responsible for the administration of ERM in the various organisations. Thus, it can be stated that those with work experience between “6-10 years” and “11 years and above” constitute the largest portion (85.90%) of the respondents. Therefore, the majority of the respondents have the requisite work experience to pilot the affairs of ERM in their various organisations.

5.6.5 Type of Institutions and the Person in Charge of ERM

Table 5.9 presents a cross-tabulation of the type of institutions and the rank of those who oversee ERM program. The table indicated that out of the 29 CRO, in the study sample, 41.4% and 58.6% are from the banking and insurance sub-sector respectively. Similarly, out of the 62 RO in the study sample, 12.9%, 35.5%, and 24.2% are from the banking, insurance and pension sub-sectors respectively. Similarly, 15 RO, representing 19.4% and 5 RO representing 8.1% are from the mortgage and micro-finance companies respectively. With regard to the rank of CFO, 18.5% and 81.5% of the CFOs came from the mortgage and microfinance sub-sectors respectively. Again, 22.2%, 6.7%, 20.0% and 51.1% of the rank of TLM,

came from the insurance, pension, mortgage and the microfinance companies respectively.

Table 5.9
Cross Tabulation between Institution and Rank

		Person in charge of ERM			
Types of Inst.	Institutions	CRO	RO	CFO	TLM
	Bank	41.4%	12.9%	0.0%	0.0%
	Insurance	58.6%	35.5%	0.0%	22.2%
	Pension	0.0%	24.2%	0.0%	6.7%
	Mortgage	0.0%	19.4%	18.5%	20.0%
	Microfinance	0.0%	8.1%	81.5%	51.1%
	Total	100%	100%	100%	100%

$$\chi^2(3, N = 163) = 137.76, P < 0.05$$

From the Table 5.9, it is clear that all the CROs are from the banking and insurance sub-sectors. Thus, it can be inferred that the ERM practices of the banking and insurance sub-sectors are more comprehensive when compared with that of pension, mortgage and microfinance subsectors of the Nigerian financial industry.

Further, a chi-square test was conducted to determine the level of association between the types of companies and those who oversee risk management initiatives among the study sample. However, one of the assumptions of Chi-square distributions was violated (expected frequency must not be less than 5), as such the chi-square likelihood test ratio was used to ascertain the level of relationship between the frequencies of types of institutions and the person in charge with ERM practices. From the chi-square likelihood ratio statistics (see Table 5.9) there is a significant relationship between the type of company and the rank of those in charge of ERM program. As such banking and insurance tend to have more CROs given the fact they dominate the Nigerian financial industry in terms of size and coverage.

5.6.6 Relationship between Rank of the Person in Charge and Work Experience

Again, to have a better understanding of the frequency distributions, a cross tabulation between the rank of those in charge of ERM and their work experience were conducted. This analysis has helped in examining the capabilities of those giving the responsibilities to pilot the affairs of ERM in their various organisations. At the same time, it helps the study to make more sense about the level of ERM advancement in the various organisations. Table 5.10 below presents a cross-tabulation between the rank of the person in charge of ERM and work experience. The table indicated that 31.0% of CRO in the study sample have between 6 and 10 years working experience. Similarly, the remaining 69.0% of CROs have between 11 and above years of work experience.

For those of the rank of RO, 37.1% falls within 1 and 5 years work experience. Again, 58.1% of RO in the study sample have between 6 and 10 years work experience while 4.8% have between 11 and above years of work experience. Also, the study indicated that those on the rank of CFOs, 37.0% have between 6 and 10 years work experience. Additionally, 63.0% have between 11 and above years of work experience. Finally, 42.2% respondents who fall within the rank of TLM have between 6 and 10 years work experience. While the remaining 57.8% have between 11 and above years of work experience.

Table 5.10
Cross Tabulation between Person in Charge and Work Experience

		Work Experience		
Ranks		1-5 years	6-10 years	11 years and Above
Person in Charge of ERM	Chief Risk Officer	0.0%	31.0%	69.0%
	Risk officers	37.1%	58.1%	4.8%
	Chief Financial Officer	0.0%	37.0%	63.0%
	Top Level Manager	0.0%	42.2%	57.8%

$$\chi^2(6, N = 163) = 90.56, P < 0.05$$

Referring to Table 5.9, it is clear that the ERM practices of the majority of the banking and insurance sub-sectors were managed by personnel of the rank of CRO. In addition, Table 5.9 indicated that 31.0% and 69.0% of the CROs have work experience ranging between 6-10 years and 11 and above years. This further confirmed the fact that the banking and insurance sector have a more experienced CROs as compared with other sub-sectors. Though the ERM practices of the remaining three segments of the financial sector (pension, mortgage and the microfinance institutions) were not as comprehensive as those of banking and insurance, yet their ERM practices were managed by experienced personnel with the requisite level of experience.

Further, a chi-square test was used to examine whether there is a significant relationship between the ranks of those in charge with ERM and their work experience. However, one of the assumptions of Chi-square distributions was violated (i.e. expected frequency must not be less than 5), hence the researcher resorts to the likelihood ratio test to determine the level of association between the frequencies of the study variables. From the chi-square likelihood ratio (see table 5.10), it can be stated that there is a significant association between the type of

company and the rank of those giving the responsibility to oversee the affairs of ERM program within the financial industry. Thus, it may be deduced that institutions whose ERM program is dominated by ERM may likely have a more advanced ERM program.

5.6.7 ERM Practices Components

To examine what drive the ERM practices of the Nigerian financial industry, a number of factors have been listed in the study instruments and respondents were requested to select all those components that apply to their organisations. The study identified eight important factors as components of ERM practices. They include: Improve risk assessment process, improve measurement and quantification of financial risks, improve measurement and quantification of operational risks, improve measurement and quantification of strategic risks, improve the internal risk reporting system, improve the risks management decision-making, incorporate risk consideration into incentive compensation and finally improve interaction and efficiency among departments/units. Again, these factors provided us with information concerning the comprehensiveness of a firm's ERM practices. For easy quantification of the data, the responses were categorized into two classes. For example, where the respondents selected all the eight listed items, the firm was categorized as "All listed elements selected", indicating the comprehensiveness of the firm ERM practices.

On the other hand, where respondents selected some of the listed items, the responses were categorized as "Not all listed elements selected", which signified the

less comprehensiveness of the ERM practices, indicating that the firm's ERM practices are less comprehensive.

Table 5.11

ERM Practices Components

Options	Frequency	Percent
All listed elements selected	104	63.8
Not all listed elements selected	59	36.2
Total	163	100.0

From the table, 104 firms representing 63.8% of the total respondents selected all the listed items that relate to ERM practices. While 59 companies representing 36.2% of the respondents selected some of the listed items relating to ERM practices of their organisations. It can, therefore, be asserted that majority of the firms representing 63.80% have implemented ERM program.

5.6.8 Relationship between type of institutions and ERM practices components

Table 5.12 compares the type of institutions with the ERM drivers. From the table, it is clear that all the eight ERM practices applied to the banking (100%) and insurance (100%) sectors, indicating the comprehensiveness of their ERM practices. Again, referring to table 5.9, it is clear that these two subsectors have the largest number of CRO as heads of their ERM program. For example, 41.4% of CRO fall under the banking sub-sector while remaining 58.6% of the CROs came from the insurance sub-sectors.

On the contrary, 50.0%, 42.3% and 78.0% of the pension, mortgage and microfinance companies selected some of the ERM elements constituting the largest companies with less comprehensive ERM program. Again, referring to table 5.9,

these are companies who largely have CFOs and TLMs as heads of their ERM practices.

Table 5.12

Cross Tabulations between Types of Inst. and ERM Practices

	Institution	ERM practices	
		All listed items	Not all listed items
Types of Inst.	Bank	100%	0.0%
	Insurance	100%	0.0%
	Pension	50%	50.0%
	Mortgage	57.7%	42.3%
	Microfinance	22.0%	78.0%

$$\chi^2(4, N = 163) = 78.88, P < 0.05$$

Similarly, a chi-square test was conducted to ascertain the level of association between ERM drivers and the type of financial institutions. The results of the chi-square test (see Table 5.12) indicated that there is a significant association between ERM practices and the types of financial institutions.

5.6.9 ERM Commencement Periods

Concerning the period of ERM commencement, the descriptive analysis indicated that 75 organisations representing 46.0% have between 1 and 3 years ERM implementation experience. While 82 firms representing 54.0% had between four and six years ERM implementation experience. Given the number of years ERM have been in operation for the majority of the sampled companies, it can be asserted that the firms have possessed the requisite experience to provide information concerning the pros and cons of ERM implementation.

Table 5.13
ERM Commencement

Period of operation	Frequency	Percentage
1-3 years	75	46.0
4-6 years	88	54.0
Total	163	100.0

5.6.10 Relationship between Types of Institutions and Commencement Period

Table 5.14 presents a cross-tabulation of the type of financial institution and the commencement period. The table indicates that 95% of the banks have between 4 and 6 years ERM commencement period. Similarly, 81.6% of the insurance companies have between 4 and 6 years commencement period. Likewise, 38.9%, 19.2% and 34.0% have a commencement period of between 4 and 6 years for pension, mortgage and microfinance companies respectively. Again, relating the commencement period with ERM practices (see table 5.12), it is clear that the commencement period is in agreement with the comprehensiveness of the ERM program. Given the fact that banking and insurance sub-sectors have between 4 and 6 years commencement period it might justify the comprehensiveness of the ERM practices of the banking and insurance sub-sectors. Similarly, these are the sectors with CRO as the head of their risk management program (see table 5.9). As such, it can be deduced that banks and insurance being the major drivers of the Nigerian financial sub-sectors are in the lead regarding the ERM practices.

Table 5.14

Cross Tabulations between Institutions and ERM Commencement Period

ERM Commencement Period			
Types of Inst.	Institutions	1-3 years	4-6 years
	Bank	5.0%	95.0%
	Insurance	18.4%	81.6%
	Pension	61.1%	38.9%
	Mortgage	80.8%	19.2%
	Microfinance	66.0%	34.0%

$$\chi^2(4, N = 163) = 50.96, P < 0.05$$

Also, a chi-square test was conducted to ascertain whether there is a relationship between the type of institutions and the commencement period. The chi-square test (see table 5.14) indicated a significant association between the type of institution and the ERM commencement period.

5.6.11 ERM Level of Implementation

Concerning ERM implementation status, Table 5.15 indicated that 61 firms representing 37.40% have fully implemented ERM in their organisations. Again, 60 firms representing 36.80% indicated partial implementation while 42 companies representing 25.80% reported that their ERM program is still at initial stage.

Table 5.15

ERM Level of Implementation

Level of Implementation	Frequency	Percent
Fully implemented	61	37.4
Partially implemented	60	36.8
At initial stage	42	25.8
Total	163	100.0

5.6.12 Relationship between Institution Type and Level of ERM Implementation

Similarly, Table 5.16 shows the cross-tabulation of the type of financial institution and the level of ERM implementation. Again it is clear from the table that 60% of the banks and 65% of insurance companies have fully implemented ERM program. Similarly, 33.3% of pension firms and 15.4% of the mortgage institutions have fully implemented ERM. Likewise, 14% of the microfinance companies reported that they have fully implemented the ERM program. On the other hand, 35% and 25.6% of respondents reported partial implementation for banks and insurance companies respectively. In the same trend, 44.4%, 61.5%, 30% of the respondents reported partial implementation for the pension, mortgage and microfinance companies respectively. Those at the initial stage of implementation includes 5% of banks, 6.1% of insurance companies and 22.2% of pension firms. Finally, 23.1% and 56% of the respondents reported initial implementation for the mortgage and microfinance institutions respectively.

Again, considering the fact that most of the banks and insurance companies have fully implemented ERM, it is evident that the ERM practices of these two institutions are more advanced compared to pension, mortgage, and microfinance. Juxtaposing this result with the rank of those who oversee the affairs of ERM (see table 5.9), one can see some similarities. The majority of those who head the ERM program in these two institutions (banking and insurance) fall within the rank of CRO and RO.

Table 5.16

Cross Tabulations between Institutions and Level of Implementation

	ERM Level of Implementation			
	Institutions	Fully Implemented	Partially implemented	At Initial Stage
Types of Inst.	Bank	60.0%	35.0%	5.0%
	Insurance	65.0%	25.6%	6.1%
	Pension	33.3%	44.4%	22.2%
	Mortgage	15.4%	61.5%	23.1%
	Microfinance	14.0%	30.0%	56.0%

$$\chi^2(8, N = 163) = 58.43, P < 0.05$$

More so, a chi-square test was conducted to examine whether there is a relationship between the type of financial institution and the level of implementation. The chi-square test (see Table 5.16) indicated that there is a significant association between the type of institution and the level of ERM implementation. It can be deduced that the banks and insurance companies tend to be in the forefront in terms of the level of ERM implementation.

5.6.13 ERM Drivers

The essence of this section is to use descriptive analysis to analyze the factors that motivate organisations to implement ERM. Eight factors were identified and put forward for each respondent to select the factors that drive their ERM implementation. The eight factors include regulatory compliance, a mandate from the board of directors, technological advancement, sound corporate governance practices, complex global business environment, competitive pressure, stakeholder pressure and surge for best business practices were listed in the questionnaires as motivators for ERM framework implementation. The respondents were categorized into two for easy coding and analysis. The first class relates to those that selected all the listed items, categorized as “Selected all the listed factors”. The second class referred to those respondents that selected some of the listed factors and they are

referred to as “Not all listed factors selected”. Table 5.17 indicates the responses of the respondents on factors that motivated the implementation of ERM in their organisations.

Table 5.17
Drivers for ERM Implementation

Components that motivate adoption	Frequency	Percent
Selected all listed factors	129	79.1
Not all listed factor selected	34	20.9
Total	163	100.0

From the table, it is clear that majority of the companies (79.1%) selected all the listed factors as the motivating factors that encouraged them to implement ERM. While 34 companies, representing 20.9% selected some of the listed factors. This indicated that majority of the firms in the Nigerian financial industry are motivated by several motivating factors. In fact, the most cited factors across the two groups include regulatory compliance, surge for best business practices, sound corporate governance practices, competitive pressure and stakeholder pressure among others.

5.6.14 Relationship between Type of Institutions and ERM Drivers

Table 5.18 shows a cross-tabulation between types of institutions and motivators for ERM implementation. The table indicated that all the total number of banks (100%) in the study sample selected all the listed factors that motivate ERM implementation. However, 49% of the insurance companies selected all the listed factors with the remaining 51.0% selecting some of the factors. It may also be asserted that given the fact that insurance is basically into a risk-taking business venture, the motivation to implement may be internally driven and not by all the listed factors. On the contrary, 72.2% of the pension companies, 96% of the mortgage firms and 79.1% of the microfinance firms selected all the listed factors.

Hence, considering the fact that 99.4% (see Table 5.6) of the study sample pay considerable attention to risk management issues, it is not surprising that majority of the study sample were motivated by these eight factors to implement ERM program (regulatory compliance, mandate from the board of directors, technological advancement, good corporate governance practices, complex global business environment, competitive pressure, stakeholder pressure and surge for best business practices).

Table 5.18
Cross Tabulation between Types of Inst. and ERM Drivers

			Not all listed factor selected
	Institutions	Selected all listed factors	
Types of Inst.	Bank	100%	0.0%
	Insurance	49.0%	51.0%
	Pension	72.2%	27.8%
	Mortgage	96.0%	40.0%
	Microfinance	79.1%	20.9%

$$\chi^2(4, N = 163) = 46.86, P < 0.05$$

Similarly, a chi-square test was used to determine whether there is a relationship between the type of financial institution and the ERM motivators. Since one of the assumptions of chi-square was violated (2 cells have expected count less than 5), a likelihood ratio test was used to indicate the level of association among the categorical variables. Hence, using the likelihood ratio (see Table 5.18), the result indicated that there is a significant association between type of institution and the factors that motivate ERM implementation. Thus, it can be deduced that all the firms in the study sample consider ERM as a major priority, hence, could be motivated by several factors to implement ERM.

5.6.15 ERM Challenges

Regarding ERM implementation challenges, the researcher itemized the following as some of the challenges surrounding ERM implementation. The aim is to identify the level of problems confronting financial institutions in the process of ERM implementation. Six major challenges were identified and listed in the questionnaires for the respondent to select whether they apply to their organisations. These factors include uncertain regulatory environment, managing change, attracting and retaining talent, adequate infrastructure, huge financial resources and fear of compliance failure. Again, to ease the coding and analysis the challenges were categorized into two, “All listed challenges selected” and “Not all listed challenges selected”.

Table 5.19
ERM Challenges

Major Challenges	Frequency	Percent
All listed Challenges	94	57.7
Some Listed Challenges	69	42.3
Total	163	100.0

As shown in Table 5.19, 94 firms selected all the listed factors as major ERM implementation challenges. This particular firms represented 57.7% of the entire sample firms. On the other hand, 69 firms representing 42.30% selected some of the listed factors as a major challenge to ERM implementation. It can, therefore, be deduced that uncertain regulatory environment, managing change, attracting and retaining talent, adequate infrastructure, huge financial resources and fear of compliance failure are part of the major factors affecting the effectiveness of ERM implementation in the Nigerian financial sector.

5.6.16 Relationship between Type of Institutions and ERM Challenges

To determine the relationship between the types of institutions and the major challenges facing ERM implementation within the Nigerian financial industry, a cross tabulation was conducted. Table 5.20 indicated that 35% of banks selected all the six listed challenges that affect ERM implementation while the remaining 65% selected only some of the listed challenges. Similarly, 30% of the insurance companies selected all the listed challenges while the remaining 69.4% selected some of the listed challenges affecting ERM implementation in their organisations.

However, 88.9% respondents of pension companies and 76.9% respondents of the mortgage institutions selected all the listed factors affecting ERM implementation. Finally, 72% of the microfinance companies selected all the listed challenges affecting ERM implementation. Relating this result to table 5.6, where it was reported that ERM program of pension, mortgage and microfinance companies were managed either by CFO or TLM, these segment of the financial industry may be confronted with more implementation challenges vis-a-vis the banking and insurance companies who largely have CROs as heads of their ERM program.

Table 5.20

Cross tabulation between Types of Inst. and ERM Challenges

	Institutions	Selected all listed factors	Not all listed factor
Types of Inst.	Bank	35.0%	65.0%
	Insurance	30.0%	69.4%
	Pension	88.9%	11.1%
	Mortgage	76.9%	23.1%
	Microfinance	72.0%	28.0%

$$\chi^2(4, N = 163) = 34.25, P < 0.05$$

Again, to further determine the relationship between the types of Institutions and the ERM challenges, a chi-square test was used. The result of the chi-square (see table 5.20) revealed a significant relationship between the type of institutions and the challenges facing ERM implementation. It can, therefore, be deduced that firms where senior managers other than CRO assigned the responsibilities of piloting ERM practices are more likely to be confronted with more ERM implementation challenges.

5.7 Descriptive Analysis of the study variables

This section presents the descriptive statistics of the constructs used in the study. For the purpose of descriptive analysis of the constructs, the mean and standard deviation were computed to describe the perception of the respondents on each of the constructs. Combining mean and standard deviation tend to give a better clue concerning the pattern of responses in the data (DataStar, 2013). The constructs used in the study were measured with a 5 point Likert Scale ranged from 1 = strongly disagree to 5 = strongly agree. The outcome of the analyses was presented in Table 5.21.

Table 5.21
Descriptive Statistics for Variables

Constructs	Number of Items	Mean	Standard Deviation
RMF	9	4.079	.443
BEO	7	3.782	.787
COP	8	3.270	1.201
RMI	4	4.288	.507
RMC	8	4.188	.359
RKS	5	3.947	.509
OIN	6	4.052	.620
SCP	5	3.331	.899
LFS	6	3.361	.808
FFP	6	4.240	.412
NFP	6	4.171	.433

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

Table 5.21 illustrates that the overall mean for the latent variables ranged between 3.331 and 4.288. Precisely, the mean and standard deviation for the risk management framework (RMF) were 4.079 and .443 respectively. This average value indicates that the responses on the construct tilted positively in agreement with the primary objective of ERM in organisations. The standard deviation shows that variation in the answers was somehow clustered around the mean, further establishing the agreement of the majority of respondents on the scale. The descriptive statistical results showed that the average value of responses on board equity ownership (BEO) is 3.782, which indicates that the answers are consistent with the BEO terms in organisations. Nevertheless, there is a deviation of .787 from one respondent to another.

Table 5.21 also shows that the mean for compliance (COP) was 3.270 with a standard deviation of 1.201, suggesting that the respondents have moderately agreed

with the scale regarding compliance provisions. The standard deviation is 1.201 which indicates a significant variation regarding responses on the construct among the respondents. Despite the differences, the majority of the respondents fall under agree category on the scale. Further, the results for the descriptive indicates that risk management information (RMI) has an average value of 4.288 portraying a high agreement of the majority of the respondents with the measuring scale. Again, the standard deviation is .507 indicating a moderate variation in the perception of RMI among the respondents. Similarly, risk management culture (RMC) has an average response value of 4.188 with a variation of .359. The standard deviation also indicates that the answers are clustered around the mean value indicating a high agreement of the majority of respondents on the measurement scale.

The descriptive statistics of risk knowledge sharing (RKS) indicate an average mean value and standard deviation of 3.497 and .509 respectively. Hence, the standard deviation shows that the responses of the respondents are clustered around the average value. Consequently, establishing the consistency and efficiency of the measurement scale. Regarding organisational innovativeness (OIN) the means and standard deviations are 4.052 and .620 respectively. Again, there is minimal variation regarding responses to the majority of respondents. Thus, it can be deduced that measurement scale has been consistent across the respondents. Likewise, staff competence (SCP) construct has the mean value of 3.331 indicating that majority of the respondents fall into the “agree” category with a dispersion of .899 from the average; showing a weak clustering around the mean value. Moreover, Table 5.21 shows that the average mean value of leadership factors (LFS) is 3.361 suggesting that substantial portion of the responses fall into the agree on the category. The

variation of .808 signifies a tiny difference among the respondents on the measurement scale. Finally, regarding firm performance, the two dimensions financial firm performance (FFP) and non-financial firm performance (NFP) have a mean value of 4.240 and 4.171 respectively. Also, the dispersion is .412 and .433 indicating that the responses are highly clustered around the average value.

The descriptive of the latent constructs has shown the position of the various financial institutions on the issues relating to risk management practices. The direction of the responses reflected the importance of risk management to financial sector development and the readiness of firms to make ERM concept more effective.

5.8 Evaluation of PLS-SEM Model

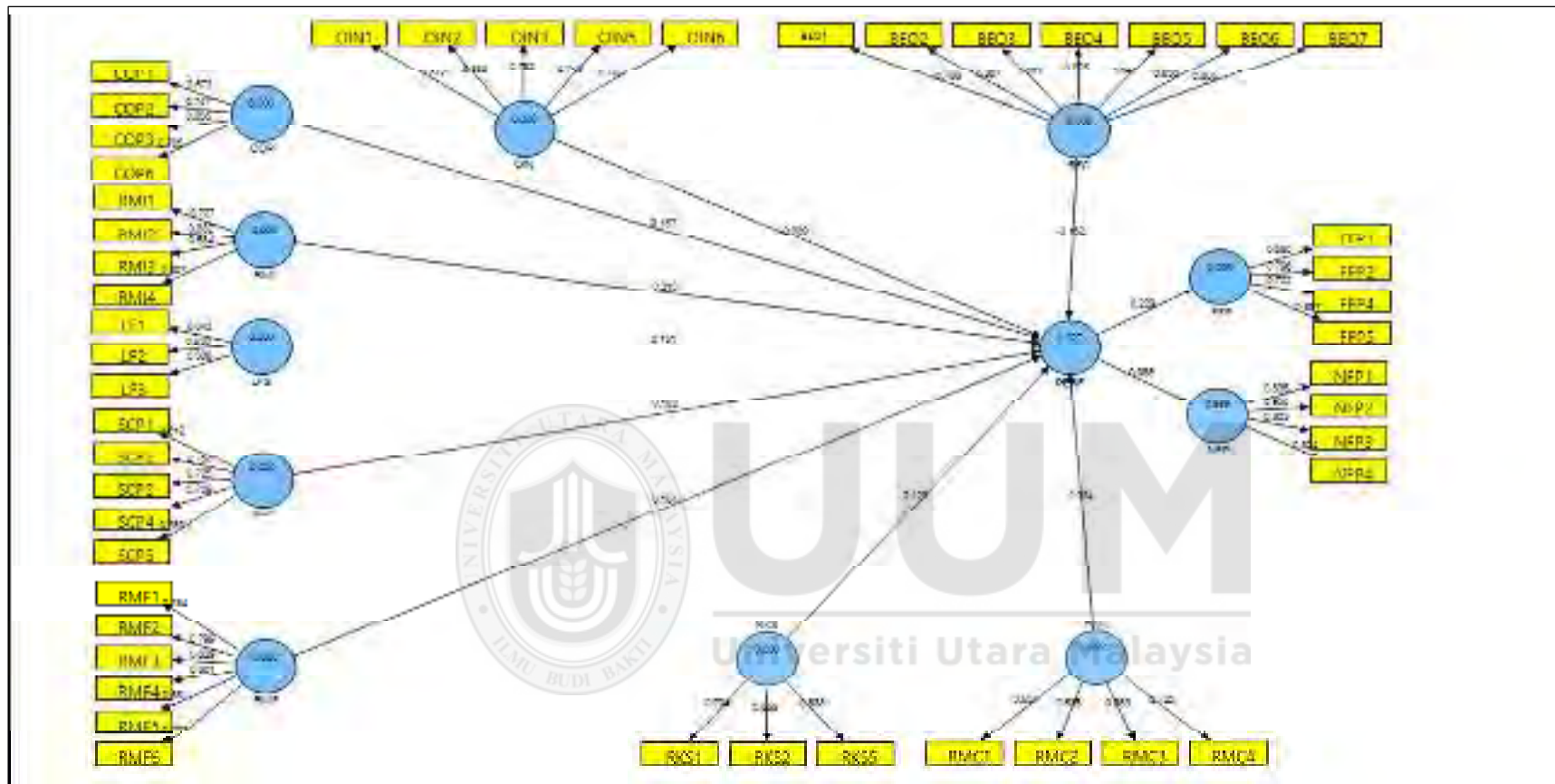
This section examines the quality of both the measurement and the structural model to enable the researcher to answer the research questions. Since the researcher adapted the measures from previous studies, an evaluation of the reliability and validity of the items measuring the constructs. Also, in the light of recent development in model evaluation, Henseler and Sarstedt (2013); and Hair *et al.* (2014) asserted that goodness-of-fit index does not represent a valid criterion for PLS-SEM validation.

In this study, all the indicators of latent variables are reflective. Further, the analysis involves testing nine exogenous latent constructs (RMF, BEO, COP, RMI, RMC, RKS, SCP, OIN and LFS) and firm performance. Firm performance was treated as a second-order construct with financial and non-financial dimensions as the lower order components. As such, the evaluation of the structural model was carried out

using the two-stage approach. Hair *et al.* (2014) contended that using the two-stage approach can reduce the number of relationships in the structural model and makes the PLS path model more parsimonious. Also, a two-stage approach is used where prediction represents one of the objectives of the analysis (Hair *et al.*, 2014). Following the suggestion of Henseler, Ringle, and Sinkovics (2009), the study utilized a two-step process to assess the results of PLS-SEM path modelling. The two steps process of PLS path model assessment involves measurement and structural model assessment. The model measurement assessment requires examination of the individual item reliability, assessing the internal consistency reliability, ascertaining the convergent validity and establishing the discriminant validity. While the model structural assessment requires the evaluation of the significance of path coefficients, assessing the coefficient of determination (R^2), determination of the effect size (f^2), determining the predictive relevance (Q^2) of the model and finally examining the interaction effect.

5.8.1 The Measurement Model

The validity of the research outcome depends on the reliability of the relationship among measures of the constructs (inner model). Assessment of a measurement model (outer model) comprises determining individual item reliability, internal consistency reliability, content validity, convergent validity and discriminant validity. The analysis deals with the components that determine how to fit the items load theoretically and link with the respective constructs.



Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

Figure 5.2
Measurement Model

5.8.1.1 Individual Item Reliability

In this study, the reliability of the individual items was assessed by examining the outer loadings of indicators measuring each construct (Duarte, P., & Raposo, 2010). According to Hair Jr, Sarstedt, Hopkins, and Kuppelwieser (2014), items with loadings between .40 and .70 should be considered for deletion if their removal will increase the composite reliability or AVE beyond the suggested threshold. Following Hair Jr *et al.* (2014), out of the 70 items, 21 were deleted because they load below the threshold. Generally, none of the constructs had a more than 50% items deletion before achieving the model fit. Therefore, 49 items had loadings between .508 and .900 (see Table 5.22 and appendix E3). In fact, Hayduk and Littvay (2012) suggested the use of few best items to achieve a better model fit. They further asserted that additional redundant indicators provide less research benefit as scales with multiple indicators can introduce additional measurement problems.

5.8.1.2 Internal Consistency Reliability

Internal consistency reliability establishes the extent to which survey items can be relied upon to secure consistent results upon repeated application. It indicates whether indicators measuring the construct are consistent in producing similar scores (Hair Jr *et al.*, 2014). Studies used the Cronbach's alpha coefficient and composite reliability coefficient to examine the internal consistency reliability of an instrument in social science and management research. For PLS-SEM estimation, Hair *et al.* (2014) asserted that composite reliability coefficient provides a much less biased estimate of reliability than Cronbach's alpha coefficient because the latter is sensitive to the number of items in the scale and assumes that items have equal

loadings on the construct without considering the individual item contribution. PLS-SEM examines indicators based on their reliability, hence is more appropriate to use composite reliability as a measure of internal consistency reliability. Composite reliability values of between .7 and .9 can be considered as most desirable in measuring internal consistency reliability (Nunnally & Bernstein, 1994). In this study, composite reliability coefficients were used to ascertain the internal consistency reliability of adapted measures.

Table 5.22

Loadings, Average Variance Extracted and Composite Reliability

Constructs	Loadings	Average Variance Extracted AVE	Composite Reliability (ρ_c)
ERM Framework		.588	.895
RMF1	.754		
RMF2	.799		
RMF3	.829		
RMF4	.801		
RMF5	.681		
RMF6	.727		
Board Equity Ownership		.718	.947
BEO1	.788		
BEO2	.887		
BEO3	.881		
BEO4	.875		
BEO5	.841		
BEO6	.850		
BEO7	.805		
Compliance		.514	.808
COP1	.673		
COP2	.747		
COP3	.656		
COP6	.785		

Table 5.22 (Table Continued)

Constructs	Loadings	Average Variance Extracted AVE	Composite Reliability (pc)
Financial Firm Performance		.515	.809
FFP1	.680		
FFP2	.796		
FFP4	.702		
FFP5	.687		
Leadership Factors Role		.553	.780
LF1	.843		
LF2	.830		
LF3	.508		
Non-Financial Firm Performance		.708	.906
NFP1	.835		
NFP2	.900		
NFP3	.803		
NFP4	.824		
Organisational Innovativeness		.608	.885
OIN1	.812		
OIN2	.853		
OIN3	.782		
OIN5	.719		
OIN6	.722		
Risk Knowledge Sharing		.516	.761
RKS1	.794		
RKS2	.666		
RKS5	.688		
Risk Management Culture		.525	.813
RMC1	.654		
RMC2	.635		
RMC3	.863		
RMC4	.725		
Risk Management Information		.553	.830
RMI1	.727		
RMI2	.832		

Table 5.22 (Table Continued)

Constructs	Loadings	Average Variance Extracted AVE	Composite Reliability (pc)
RMI3	.584		
RMI4	.807		
Staff Competence		.509	.837
SCP1	.612		
SCP2	.758		
SCP3	.725		
SCP4	.709		
SCP5	.753		
Second Order			
FFP	.765	.588	.741
NFP	.769		

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance

As shown in Table 5.22, the composite reliability coefficient of each construct ranged from .761 to .947 each exceeding the threshold of .70, confirming the internal consistency reliability of the measures used in the study.

5.8.1.3 Convergent Validity

Henseler *et al.* (2009) viewed convergent validity as the extent to which measures of constructs correlates positively with other alternative measures of the same constructs. For the indicators to achieve convergent validity, the average variance extracted (AVE) of each latent constructs should range between .50 and above (Fornell & Larcker, 1981). In this study, the AVE value ranges from .509 to .718 (see Table 5.22). Hence, analysis of the measurement model confirms that the survey items are reliable and valid.

5.8.1.4 Discriminant Validity

Discriminant validity is simply the magnitude to which a construct in a study is distinct from other constructs (Duarte & Raposo, 2010). Following Fornell and Larcker (1981), this study assessed the discriminant validity by comparing the correlations among the variables with square roots of average variance extracted (AVE). They proposed that to attain discriminant validity, the square root of each construct's AVE should exceed the correlations for any other constructs. Table 5.23 compared the square root of AVE (values in boldface) with the correlations of the latent constructs. Thus, the study has achieved the discriminant validity of all the construct (Hair, Ringle, & Sarstedt, 2011; Henseler *et al.*, 2009).

Table 5.23
Latent Variable Correlations and Square Roots of AVE

Constructs	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
BEO	.847										
COP	-.059	.717									
FFP	-.043	.028	.718								
LFS	.189	.127	.033	.744							
NFP	.329	.148	.056	.253	.841						
OIN	-.119	-.208	.055	.000	-.117	.779					
RKS	.386	-.045	.141	.090	.285	-.027	.718				
RMC	.017	-.053	.069	-.028	.203	.113	.109	.725			
RMF	.230	-.018	-.004	.118	.260	-.066	.087	.125	.767		
RMI	.095	-.156	.002	.056	.264	.125	.121	.246	-.057	.744	
SCP	.047	.010	.137	.041	.267	.109	.312	.346	.010	.209	.713

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance. Note: Entries shown in boldface represent the square root of the average variance extracted.

Secondly, discriminant validity can also be achieved comparing the indicator loadings with cross-loadings (Hair Jr *et al.*, 2010). Chin (1998) recommended that to achieve discriminant validity all indicator loadings for each construct should be higher than the cross loadings. In this study, all the indicator loadings are greater than the cross loadings, establishing adequate discriminant validity for further analysis (see Appendix E5).

It is clear from the evaluation of the measurement model provide satisfactory evidence of reliability, consistency, and validity of the measurement scales. After establishing the reliability of the measures, next is to assess the structural model.

5.8.2 The Structural Model

After meeting the requirements of the outer model (measurement model), the study evaluated the structural model results. This involved assessing the external model's predictive abilities and the relationships between the constructs. The present study also applied the standard bootstrapping procedure with 500 bootstrap samples with the original number of the sample data to assess the significance of the path coefficients (Hair *et al.*, 2014; Sarstedt *et al.*, 2014). Sharma and Kim (2013) reported in a simulation study that PLS-SEM achieve convergence at lower sample size using 500 iterations. Figure 5.3 shows the structural model for the direct relationship between the exogenous variables and the endogenous variables.

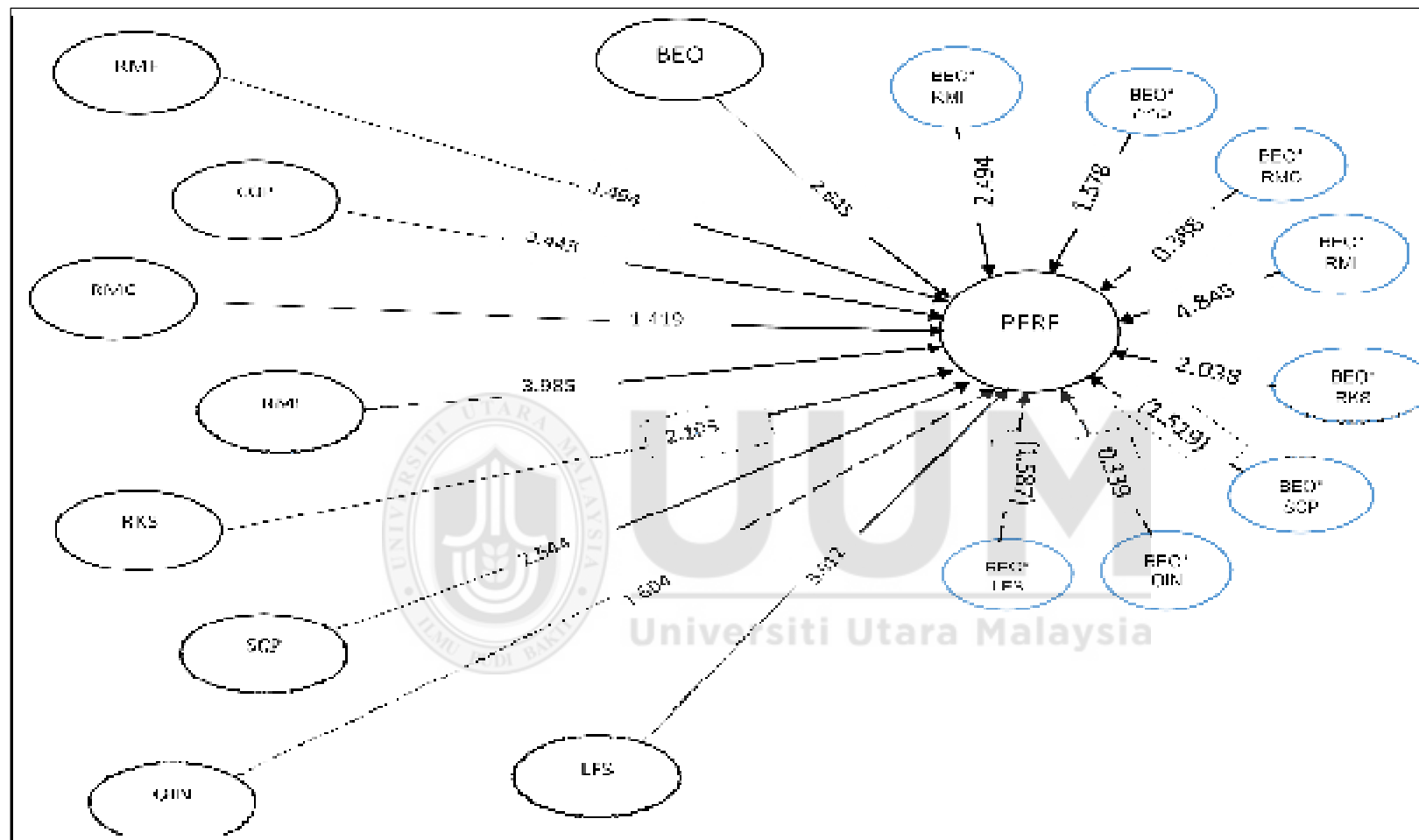


Figure 5.3
The Structural Model (Full Model)

The criteria for assessing the significance of the structural model in PLS-SEM include collinearity assessment (see Table 5.3), determining the strength of the path coefficients. Also included is the coefficient of determination (R^2), assessing the effect size (f^2) and establishing the predictive relevance (Q^2) of the model (Hair *et al.*, 2014).

5.8.2.1 Direct Relationships

The bootstrapping process had aided the determination of the strength of structural path relation for the test of hypotheses. The model structural assessment starts with the examination of the direct relationships between the study variables. The researcher determined the path coefficients by running PLS-SEM Algorithm while the significance of the path coefficient was assessed through PLS-SEM bootstrapping process. The study estimated the structural model in two stages. First, the study focused on the direct relationship between the exogenous variables and the dependent variables (H1-H8). In the second leg of the structural model assessment, the researcher examined the interaction effect of the moderating variable (H9-H16). Table 5.24 presents the path coefficients, t-statistics, P-values, and decision.

Starting with the first Hypothesis (H1), the results of the analysis revealed that ERM framework has a positive impact on firm performance ($\beta=.186$; $t=3.494$; $p<.01$). Thus, the study supported the first hypothesis. The results of the second hypothesis (H2) has shown that compliance has a positive effect on firm performance ($\beta=.166$; $t=3.443$; $p<.01$) supporting the hypothesized relationship. Similarly, the result of the third hypothesis (H3) indicated that risk management culture positively relates to firm's performance ($\beta=.084$; $t=1.419$; $p<0.1$). Hence, H3 is supported. Again, the

result in Table 5.24 revealed a significant positive relationship between risk management information systems and firm's performance ($\beta = .215$; $t = 3.485$; $p < .01$) providing evidence to support the hypothesis (H4). Likewise, the study provides evidence to support the fifth hypothesized relationship (H5) that risk knowledge sharing positively influence firm performance ($\beta = .123$; $t = 2.105$; $p < .05$), hence the hypothesis is supported. Similarly, the results provide evidence of positive effect of staff competence on firm performance ($\beta = .160$; $t = 2.544$; $p < .01$); again, supporting the hypothesized relationship (H6).

However, the seventh hypothesis (H7) is not supported despite the fact that the path coefficient is significant at 10%. The study hypothesized a positive relationship between innovativeness and firm performance; the path coefficient revealed a negative correlation between innovativeness and performance. Hence, the hypothesis is not supported ($\beta = -.093$; $t = 1.604$; $p < .1$). Conversely, the eight hypothesis (H8) that hypothesized that leadership role of CRO has a positive influence on firm performance ($\beta = .151$; $t = 3.012$; $p < .01$), thus supporting the hypothesis.

Table 5.24
Results of Hypotheses Testing (Direct Relationship)

Hypothesis	Relation	Beta		T Value	P Value	Decision
		Value	STD Error			
H1	RMF -> PERF	.186	.053	3.494***	.000	Supported
H2	COP -> PERF	.166	.048	3.443***	.000	Supported
H3	RMC -> PERF	.084	.059	1.419*	.079	Supported
H4	RMI -> PERF	.215	.054	3.985***	.000	Supported
H5	RKS -> PERF	.123	.058	2.105**	.018	Supported
H6	SCP -> PERF	.160	.063	2.544***	.006	Supported

Table 5.24 (Table Continued)

Hypothesis	Relation	Beta	STD	T Value	P Value	Decision
		Value	Error			
H7	OIN -> PERF	-.093	.058	1.604	.055	Not supported
				3.012**		
H8	LFS -> PERF	.151	.050	*	.002	Supported

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed)

5.8.2.2 Coefficient of Determination (R^2)

The R-square value assessment is one of the most commonly used criteria for assessing a structural model of the endogenous construct (Hair *et al.*, 2014; Henseler *et al.*, 2009). The coefficient of determination (R^2) represents the proportion of variation in the dependent variable(s) that is explained by one or more predictor variable. The R^2 value range between 0 and 1. The closer the R-square to 1 the more the variance explained. However, the acceptable level of R^2 depends on the research discipline. Hair, Sarstedt, Ringle, & Mena, (2012) contended that R^2 value of .2 is considered high for some social science studies. Cohen (1988) categorized the R^2 value of .02, .13, and .26 as weak, small and substantial respectively. Again, Murphy, Myors and Wolach (2014) considered the R-square value of .01, .10 and .25 as small, medium and large. Table 5.25 presents the R^2 value of the endogenous latent construct. In the present study, the result shows that the R^2 value of firm performance (.321) is substantial. The value is an indication that the nine variables included in the analysis jointly predict 32.70% of the variation in firm performance.

Table 5.25

Variance Explained in the Endogenous Latent Variables

Endogenous Variable	Variance Explained R^2
Firm Performance	0.327

5.8.2.3 Assessment of Effect Size (f^2)

Effect size measures the sharp point of the relationship between two latent constructs. It refers to the relative impact of a particular independent variable on the

dependent variable through the changes of the R^2 value (Chin, 1998). Kelley and Preacher (2012) viewed effect size as a numerical reflection of the degree of some phenomenon used for the purpose of addressing a question of interest". Simply put, it is a technique that examines changes in the R^2 value when the researcher omit a particular exogenous construct from the model (Hair *et al.*, 2014). As such, according to Hair *et al.* (2014), the effect size can be computed with the aid of the following formula:

$$Effect\ Size\ (f^2) = \frac{R^2_{Included} - R^2_{Excluded}}{1 - R^2_{Included}}$$

The guidelines for assessing effect size classified the values of .35, .15 and .02 as strong, moderate and weak respectively (Cohen, 1988). Table 5.26 shows the respective effect sizes of the exogenous variables in the model.

Table 5.26
Effect Sizes of the Latent Constructs

Endogenous Construct	Exogenous Constructs	R^2 Included	R^2 Excluded	(effect size) F^2	Remark
FIRM PERFORMANCE	RMF	.327	.296	.046	Small
	BEO	.327	.307	.030	Small
	COP	.327	.303	.036	Small
	LFS	.327	.307	.030	Small
	OIN	.327	.320	.010	None
	RKS	.327	.316	.016	None
	RMC	.327	.322	.007	None
	RMI	.327	.283	.058	Small
	SC P	.327	.307	.030	Small

Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors,

As indicated in Table 5.26 the effect sizes for the RMF, BEO, COP, LFS, OIN, RKS, RMC, RMI and SCP, were .046, .030, .036, .010, .016, .007, .058 and .030 respectively. Consequently, following Cohen's (1988) classification the effect sizes of these nine (9) exogenous latent constructs on firm performance are rated as large,

small and none respectively. It can, therefore, be deduced that the effect of all the exogenous variables is small on firm performance.

5.8.2.4 Assessment of Predictive Relevance

Apart from determining the magnitude of the impact of each of the exogenous construct, the study also applied Stone and Geisser test to ascertain the predictive relevance of the research model by using blindfolding procedures (Geisser, 1974; Stone, 1974). In PLS-SEM, the Stone-Geisser test is usually utilized as a complementary assessment of the model goodness-of-fit (Hair *et al.*, 2014). The blindfolding procedure applies only to the independent variables that have reflective indicators (Sattler, Völckner, Riediger, & Ringle, 2010). Since the dependent variable had reflective indicators, the study used the blindfolding procedure to determine the predictive relevance of the model. Henseler *et al.* (2009) asserted that a research model with Q^2 statistics greater than zero is considered fit to and relevant to predictions. Moreover, models with higher Q^2 values suggests better prognostic relevance. Table 5.27 presents the results of the cross-validated redundancy test.

Table 5.27
Construct Cross-Validated Redundancy

Total	SSO	SSE	1-SSE/SSO
Firm Performance	1304.000	1162.794	.108

As shown in Table 5.27, the cross-validation redundancy measure for the endogenous latent construct was greater than zero (.108), confirming the predictive relevance of the model.

5.9 Moderation Test

This study followed the steps provided by Hair Jr *et al.* (2010) for assessing interaction effect. They identified three steps procedure. Firstly, the estimation of the

model without a moderating variable. Secondly, the estimation of the model with the moderating variable and finally assessing the change in the R^2 -value. These three mentioned steps were employed to determine the interacting effect of BEO. Similarly, the estimation followed a product indicator approach (Helm, Eggert, & Garnefeld, 2010; Henseler & Chin, 2010) to discern and assess the strength of the moderating effect of Board Equity Ownership (BEO) on the relationship between ERM framework implementation, ERM Success factors, and firm performance.

Rigdon, Schumacker, and Wothke (1998) reported that using a term product approach is suitable when the moderating variable is continuous. Henseler and Fassott (2010) contended that using the term product approach is superior to using a comparison group approach. Hence, the product of the measures of the constructs reveals the interaction of the latent constructs (Chin *et al.*, 2003). The product indicator approach requires taking the product terms between the indicators of the latent independent variable and the indicators of the latent moderator variable to assess the interaction effects in the model. As such, moderating effects exist when the interaction terms are significant (Hair Jr *et al.*, 2014). Figure 5.3 and Table 5.28 show the interaction effects of BEO on the relationship between the exogenous constructs and the endogenous latent construct. Also, Cohen (1988) guidelines for effect size were used to determine the strength of the moderation effect (see Table 5.29).

Table 5.28
Results of Hypotheses Testing (Moderation Result)

Hypothesis	Relation	Beta	STD	T Value	P Value	Decision
		Value	Error			
H9	RMF * BEO -> PERF	.164	.066	2.494***	.007	Supported
H10	COP * BEO -> PERF	.074	.047	1.579**	.058	supported

H11	RMC * BEO -> PERF	-.024	.061	.388	.349	Not supported
H12	RMI * BEO -> PERF	.261	.054	4.846***	.000	supported
H13	RKS * BEO -> PERF	.114	.056	2.038**	.022	supported
H14	SCP * BEO -> PERF	-.110	.072	1.519	.065	Not supported
H15	OIN * BEO -> PERF	-.019	.055	.339	.368	Not supported
H16	LFS * BEO -> PERF	-.096	.061	1.587	.057	Not supported

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed)

Following the Henseler and Fassott (2010) procedure, the results of the moderating effect of board equity ownership on the relationship between ERM framework, ERM success factors and firm performance were reported in Table 5.28. The study test whether the predictive power of ERM framework and ERM success factors will improve firm performance with the incorporation of board equity ownership as a moderating variable.

The results from Table 5.28 shows the interactions terms of the eight (8) exogenous constructs. The inclusion of the interaction terms increased the R² value from .327 to .422. Out of the eight interactions terms, four were found to be significant while four of the hypotheses were found not to be significant as shown in Table 5.28.

The ninth hypothesis (H9) stated that BEO moderates the positive relationship between ERM framework and the performance of financial institutions in Nigeria. As expected, the relationship is expected to be stronger for firms with high BEO than firms with low BEO. Hence, as shown in Table 5.28 and figure 5.4, the results of the interaction revealed a positive moderation effect (β .064; t = 2.494; p <.01), hence the hypothesis is supported.

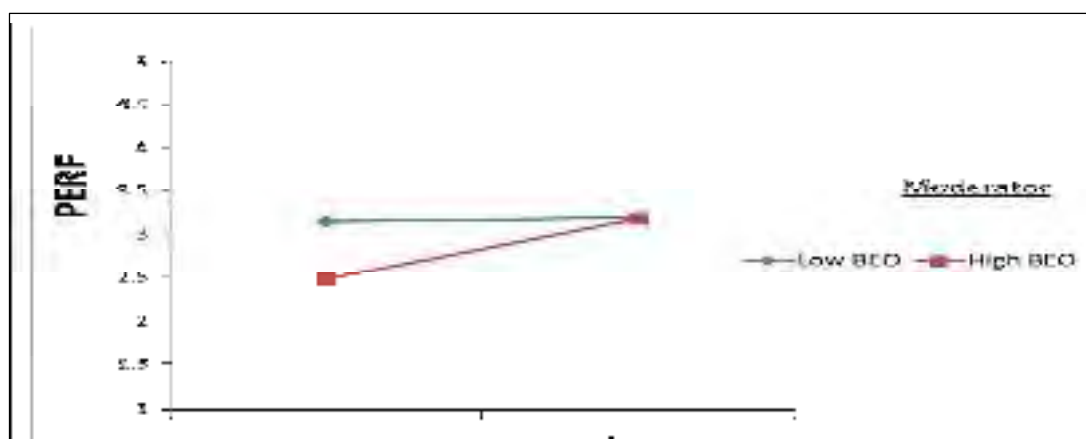
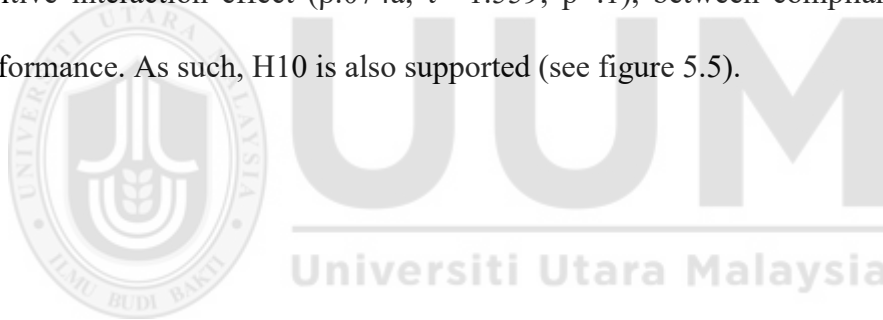


Figure 5.4

BEO strengthens the positive relationship between ERM Framework and Firm Performance

Similarly, the tenth hypothesis (H10) stated that BEO moderates the positive relationship between compliance and the performance of financial institutions in Nigeria. As such, the relationship is expected to be stronger for firms with high BEO than firms with low BEO. Hence, the results of the moderation test revealed a positive interaction effect ($\beta.074a$; $t= 1.559$; $p<.1$), between compliance and firm performance. As such, H10 is also supported (see figure 5.5).



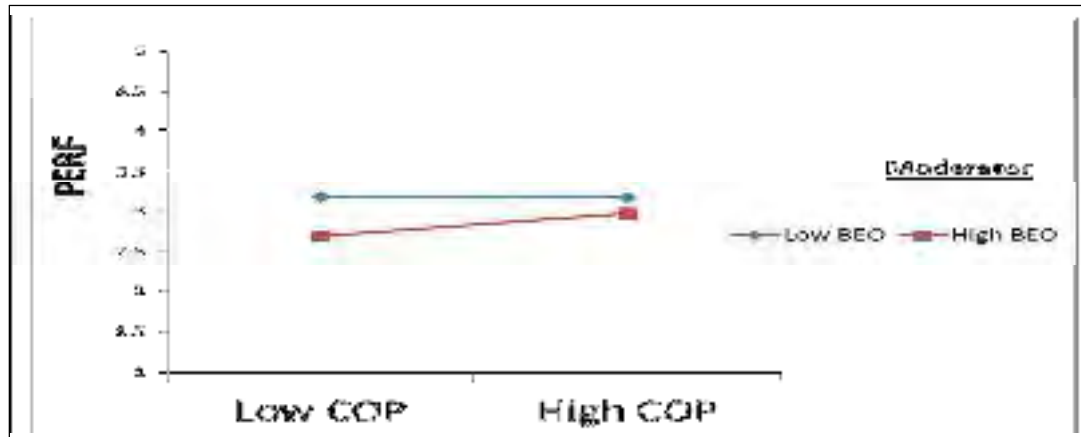


Figure 5.5

BEO increases the positive correlation between Compliance and Firm Performance.

Hypothesis eleventh (H11) states that BEO moderates the positive relationship between RMC and the performance of financial institutions in Nigeria. The interaction term of RMC*BEO is not significant (β -.024; t = .388; p <.1), hence, the hypothesis is not supported. Similarly, the twelfth hypothesis (H12) states that BEO moderates the positive relationship between RMI and the performance of financial institutions in Nigeria. Also, the interaction term of RMI*BEO is positive (β .261; t = 4.583; p <.01), hence the hypothesis is supported (see figure 5.6).

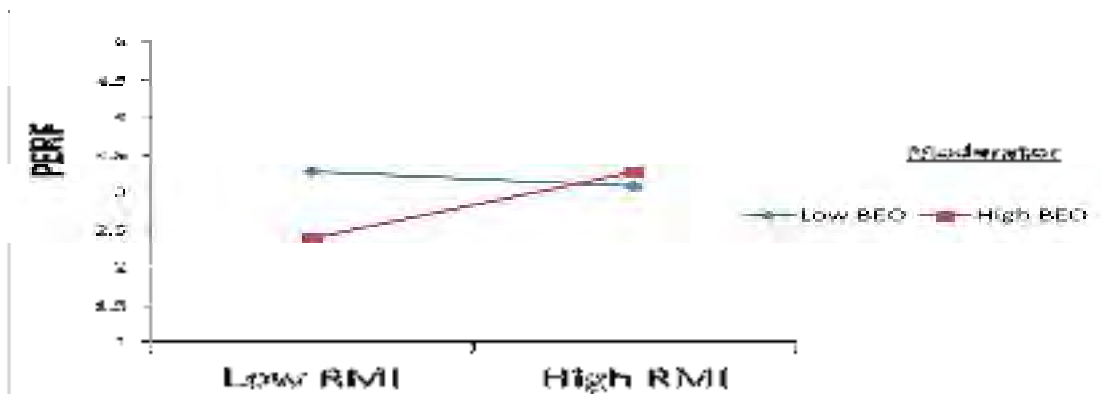


Figure 5.6

BEO strengthens the positive relationship between Risk management information and Firm Performance

Likewise, the thirteenth hypothesis (H13) states that BEO moderates the positive relationship between RKS and the performance of financial institutions in Nigeria. The results of the interaction indicated a positive interaction effect between RKS and performance ($\beta.114$; $t= 2.038$; $p<.05$), as such the hypothesis is supported (see figure 5.9).

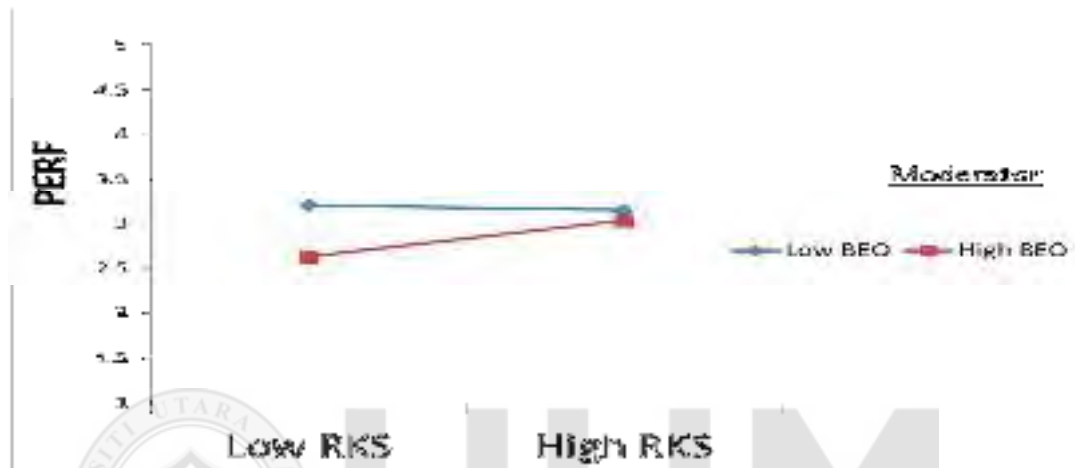


Figure 5.7
BEO strengthens the positive relationship between Risk Knowledge Sharing and Firm Performance

Conversely, the fourteenth hypothesis (H14) states that BEO moderates the positive relationship between staff competence and the performance of financial institutions in Nigeria. The results of the interaction (of SCP*BEO) revealed a negative moderation ($\beta-.110$; $t= 1.579$; $p<.05$), hence the hypothesis is not supported. Similarly, the fifteenth hypothesis (H15) states that BEO moderates the positive relationship between OIN and the performance of financial institutions in Nigeria. The result of the interaction ($\beta-.019$; $t= .339$; $p<.1$), is not significant, hence the hypothesis is not supported. Finally, the sixteenth hypothesis (H16) states that BEO moderates the positive relationship between leadership factor and the performance of

financial institutions in Nigeria. The interaction term is negative (β -.096; t = 1.587; $p < .1$), hence the hypothesis is not supported.

5.10 Determining the Strength of the Moderating Effects

Similarly, to determine the strength of the moderating effects of board equity ownership on the relationship between ERM framework implementation, ERM success factors and the performance of financial institutions in Nigeria, the effect size of the moderating effect were determined based on the Cohen's (1988) criteria. To ascertain the strength of the moderating effects, the coefficient of (R^2) of the direct model is compared with the R^2 value of the full model (with the incorporation of both the exogenous latent constructs and the interaction) (Henseler & Fassott, 2010). Thus, the strength of the moderating effects was computed using the following formula:

$$\text{Effect Size } (f^2) = \frac{R^2_{\text{Included}} - R^2_{\text{Excluded}}}{1 - R^2_{\text{Included}}}$$

Table 5.29
Strength of the Moderating Effects

Endogenous Variable	R Squared		F ²	Effect Size
	Included	Excluded		
Firm Performance	0.422	0.327	0.1644	Moderate

Moderating effect size (f^2) values of .02 can be considered as weak, effect sizes of 0.15 as moderate while the effect sizes above 0.35 may be regarded as strong (Cohen, 1988). According to Chin *et al.* (2003), an average effect size does not mean that the interaction is of no effect since a small interaction effect can be meaningful

under extreme conditions. Since where the resulting beta changes are significant, then it is important to take these conditions into account (Chin et al., 2003p. 211,). Table 5.29 indicates the result of the strength of the interaction of BEO. Using the rule of thumb suggested by Henseler and Fassott (2010) and Cohen (1988), the strength of the moderating effect size was calculated. Table 5.29 revealed that the effect size for the firm performance was .164 suggesting that the interaction effect is moderate.

5.10 Summary of Findings

Having presented all the results including main and moderating effects in preceding sections, Table 5.30 summarizes the results of all the tested hypotheses.

Table 5.30
Summary of Hypotheses Testing

Hypothesis	Statement	Finding
H1	ERM framework is positively related to the performance of financial institutions in Nigeria.	Supported
H2	Compliance is positively related to the performance of financial institutions in Nigeria.	Supported
H3	Risk culture is positively related to the performance of financial institutions in Nigeria.	Supported
H4	There will be a positive relationship between risk management information system and the performance of financial institutions in Nigeria.	Supported

Table 5.30 (Table Continued)

Hypothesis	Statement	Finding
H5	There will be a positive relationship between risk knowledge sharing and the performance of financial institutions in Nigeria.	Supported
H6	There will be a positive relationship between staff competence and the performance of financial institutions in Nigeria.	Supported
H7	Organisational innovativeness is positively related to the performance of financial institutions in Nigeria.	Not Supported
H8	Leadership factor is positively related to the performance of financial institutions in Nigeria.	Supported
H9	Board equity ownership moderates the positive relationship between ERM framework and the performance of financial institutions in Nigeria.	Supported
H10	Board equity ownership moderates the positive relationship between compliance and the performance of financial institutions in Nigeria.	Supported
H11	Board equity ownership moderates the positive relationship between risk culture and the performance of financial institutions in Nigeria.	Not Supported
H12	Board equity ownership moderates the positive relationship between risk management information systems and the performance of financial institutions in Nigeria.	Supported
H12	Board equity ownership moderates the positive relationship between risk knowledge sharing and the performance of financial institutions in Nigeria.	Supported

Table 5.30 (Table Continued)

Hypothesis	Statement	Finding
H14	Board equity ownership moderates the positive relationship between staff competence and the performance of financial institutions in Nigeria.	Not Supported
H15	Board equity ownership moderates the positive relationship between organisational innovativeness the performance of financial institutions in Nigeria.	Not Supported
H16	Board equity ownership moderates the positive relationship between leadership role and the performance of financial institutions in Nigeria.	Not Supported

5.11 Conclusion

This chapter presents the major findings of the study. The chapter presents the quantitative data collected through questionnaires distributed to 163 financial institutions in Nigeria. Specifically, the questionnaires were distributed in head offices of these firms mostly domiciled in the federal capital Abuja and Lagos states. The results of preliminary analysis such as the response rate test and test of non-response bias, missing value analysis, outlier's assessment, and normality test as well as collinearity assessment. The respondents profile and some major characteristics of the sample firms were presented. After establishing the sanctity of the data, the measurement, and the structural models were evaluated with PLS-SEM using the SmartPLS 2.0 software package (Ringle, Wande, & Becker, 2014). Consequently, the 11 hypotheses were supported out of 16 formulated hypotheses based on the model structural assessment. The next chapter (chapter 6) presents the second segment of the analysis.

CHAPTER SIX

ANALYSIS OF INTERVIEW DATA

6.1 Introduction

This chapter presents the analysis of the interview data. Thematic analysis was used to bring out the themes and then Microsoft Excel Spreadsheet 2013 was used to create the frequency distribution of the themes extracted from the interview. The frequency table was meant to provide a quick view of the themes. The chapter was rounded up with the conclusion.

6.2 Thematic Analysis

The researcher utilized interview protocols to facilitate the collection of data from the respondents. A thematic analysis was used to analyze the data and further explored the concept of ERM practices of Nigerian financial institutions. The interview was used to address the research objective which is to understand why financial institutions implement ERM program? The interview data was meant to play a supplemental role by widening the horizon of the research findings.

Out of the 168 firms that returned their questionnaires, three companies were selected based on their consent to avail the researcher the opportunity to have a face-to-face discussion on the issues that pertains to ERM implementation. The three companies include two insurance companies and one bank. The participants for the interview include 2 CROs (from insurance and banking) and a CEO from the insurance company. The CEO volunteered because the CRO of the company was out of the country for training and the CEO being part of the ERM practices volunteered to participate in the interview. The companies are classified as shown in the table below:

Table 6.1
Classification of the Participating Companies

Company	Type of Company	Participants	Years of ERM Implementation
A	Insurance	CRO	5 Years
B	Insurance	CEO	6 Years
C	Bank	CRO	6 Years

Note: CRO-Chief Risk Officer, CEO: Chief Executive Officer

The interview further explored the benefits of ERM implementation to the financial institutions in Nigeria. The views of the interviewees had provided more insight into the enterprise risk management practices of the participating firms. The data was analyzed based on themes.

Thematic analysis is a technique that allows researchers to categorize, analyze and report themes within a data generated through the interview (Braun & Clarke, 2006). It is an essentialist method that focuses on the respondent's experiences and provides meaning to the participants views. It simply means searching within a data to find repeated patterns of meaning (Braun & Clarke, 2006). Since the study utilized an interview protocol, participants provided answers that require categorization. Hence, the theoretical thematic analysis was used to analyze the interview data. The interview questions were divided into the following headings:

- i. Understanding of Enterprise risk management concept
- ii. Primary objective of ERM initiatives
- iii. Obstacles to ERM success in organisations
- iv. ERM framework implementation benefits

The responses generated from the interview were first transcribed and reviewed to get the general sense of the data and to enable the researcher to reflect on the actual meaning of the interviewees answers. Subsequently, themes were developed, coded

and summarized using the Microsoft word Excel Spreadsheet, 2013. The analysis was categorized into various headings.

6.2.1 Understandability of the ERM concept

The objective of this section is to seek the familiarity of firms with the concept of ERM framework implementation. The results of the analysis provide a common knowledge on how firms design and efficiently implement an ERM framework that addresses the entity's needs. In carrying out the thematic analysis, the researcher followed the process proposed by Braun and Clarke (2006). On the questions relating to ERM concept, seven data points were identified and categorized into two main themes for easier understanding.

Table 6.2
ERM Framework Knowledge

Understandability of ERM Concept	Frequency	Proportion
Holistic	4	57%
Risk is everybody's business	3	43%
Total	7	100%

As presented in Table 6.2 there were two themes developed from the thematic analysis. They include “ERM as a holistic approach to risk management” representing 57% of the data points, and secondly, that “risk is everybody's business” representing 43% of the data points. The two insurance companies tend to show more understanding about what ERM entails. From the extract of the CRO (company A), it is apparent that there is relatively good knowledge about the ERM concept. Generally, based on these two classifications, it is reasonable to believe that the three participating firms have the requisite knowledge concerning the concept of ERM and the idea behind its implementation. For example, the followings

statements are extracted from the CRO (company A), explaining ERM from the strategic viewpoint of the company:

“We see ERM as a holistic approach to managing risk. It is a concept where risk is viewed as an event that provides opportunities. ERM is part of the strategic policy direction of this company and is entrenched in all the company activities and operations. In fact, the company has a policy that two or more staff cannot travel in one means of transport at a time. Also, it is part of ERM that the manpower of the organization should at every point in time has that level of consciousness that something should not happen to two staff at the same time so that business operations is not disrupted”.

Similarly, the CEO (company B) expressed his perception of ERM from the company's business perspectives: “To me, it is a holistic approach where the business exposures are integrated into a single framework for better efficiency. It is something that we have been doing”. So, there is agreement among participants that ERM is a strategy that adopts an integrated view concerning the risks facing organizations. It also considers risk management as the business of each and every member of the firm. Extract from the CRO (company C) revealed that ERM is part of their strategic business decision. He noted that:

“...as financial institution (bank), the concept of risk management is part of us. We have risk management department across our branches and as the CRO who coordinates the activities of all the departments and units. Already, our approach to risk is based on integration”.

The results of the thematic analysis indicated that participant used the term “holistic” four times to convey the meaning of ERM, which represent 57% of the data points. Again, the phrase “risk is every bodies business” appeared 3 times to conceptualize the meaning of ERM, representing 43% data points on the question.

Juxtaposing the opinion expressed by these two companies, it is clear that there is a convergence of views on the ERM concept. The participating firms have not seen anything new or something spectacular about the idea behind ERM concept, particularly, in relation to their lines of business. They view ERM as part of their business decisions.

6.2.2 Motivation for ERM implementation

Under this section, the researcher sought to identify the motivating factors for the implementation of ERM framework.

Table 6.3
ERM Implementation Framework

Motivation for implementing ERM	Frequency	Proportion
Value Creation	5	45%
Urge for Best Business Practices	3	28%
Regulatory compliance	3	27%
Total	11	100%

As presented in Table 6.3, three themes came up from the thematic analysis out of eleven data points: “value creation” (45%), “urge for the best business practices” (28%) and “regulatory provisions” (27%). It should be noted that the most frequent theme regarding the motivation to implement ERM was the value creation paradigm having the highest proportion. This is even more pronounced for banks and insurance companies who are confronted with several aspects of risks. The CRO (company A) explained why they had to implement ERM framework even without regulatory directives:

“....for any forward-looking board or management will adopt ERM. Because there are risks associated with every business decisions and as such we must ensure to embrace best business practices so as maintain liquidity. Otherwise, we may end up

having our business closed if we don't adopt ERM concept. To us, the regulatory directives are just to emphasize what we have been doing before”

The CEO (company B), has this to say:

“We are into the insurance business and the benefit of ERM rather is much known in insurance cycle because we analyze risks and we are risk takers. It is what we have been doing before. Again, as I stated earlier, we in insurance industry we analyze risk so we are very conversant with risk assessment techniques. So the regulatory directive is only reinforcing the things we do and we are happy about it. Now even those in support service departments have come on board with the adoption of ERM model”.

The three participating companies tend to agree that the value creation, the surge for the best business practices and the need to comply with regulatory provisions constitute some of the motivating factors for the implementation of ERM in their organisations.

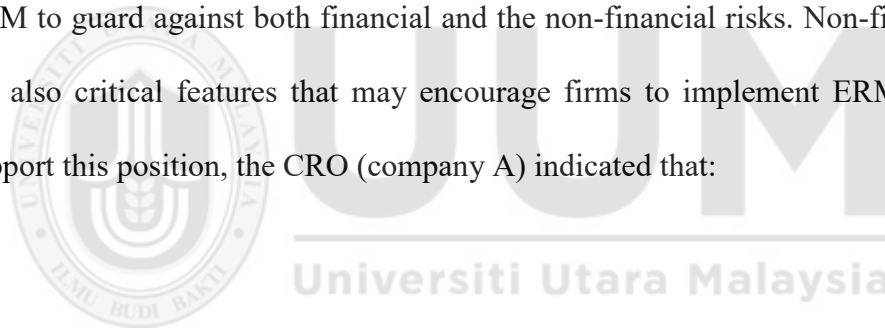
6.2.3 Major Risk Concern

The ERM concept suggests a portfolio view of risks and considers risk as everybody business. Thus, financial institutions tend to prioritize risk management because of the nature of their business operations. Under this section, the researcher sought to explicate the major risks concern that affects the operational efficiency of the participating companies. As presented in Table 6.4, two major themes emerged from the analysis. For this question, ten data points characterized by the two themes. The researcher categorized risks that directly relate to monetary aspects as financial while others that relate to business processes are classified as non-financial.

Table 6.4
Risk Consideration

Major risk concern	Frequency	Proportion
Financial	3	30%
Non-financial	7	70%
Total	10	100%

Table 6.4 revealed that financial risk had three data points representing 30% (Investment risk, Credit risk, Liquidity risk) while the non-financial components had seven data points representing 70% (Operational Risk, Reputational Risk, Strategic Risk, Political Risk, Legal risk and regulatory risk and Cybercrime risk). The thematic analysis provided evidence to believe that financial institution implemented ERM to guard against both financial and the non-financial risks. Non-financial risks are also critical features that may encourage firms to implement ERM model. To support this position, the CRO (company A) indicated that:



“The organisation has to be very vigilant and implement whatever policy directives that come from either internally from the laws of the country or internationally like financial action task force that has to do with money laundry and other risk management issues. We also look at market risks, investment risks, operational risk, strategic risk, reputational risk etc. However, credit risk is not applicable to us now because our business now is actually paid for. If you don’t pay the premium you are not on the cover, so the credit risk used to be a risk factor for us, but since the law says there will be no valid insurance contract until when the premium is actually paid. Again, we are not a lending institution, we are basically and insurance company”.

Similarly, the CRO (company C) explained that:

“We are interested in all aspects of risks that may erode the effectiveness of our business interest. Though we categorized risks in order of preference, generally the classifications cut across both financial and non-financial risks”.

Apparently, it can be said from the participant’s point of view that once an organization implements ERM, the concern shift from risk classifications to efficiency as every business decision is critical to firm survival.

6.2.4 ERM Leadership Role

Concerning risk management leadership, the researcher sought to understand the nature of risk management leadership and how effective is the leadership structure of the participating firms. Also, to enable the researcher to ascertain whether the leadership structure of the participating organization constitutes a bottleneck in the efficient implementation and workability of the ERM framework. Establishing effective leadership system that is familiar with the various business units and the key support units is critical for the effective ERM implementation. The leadership system supposed to provide a standard language concerning the design of ERM

framework. Also, the support of the board and the management at the initial conception of the ERM idea is essential.

In this regard, the thematic analysis of the interview produces six data points explaining risk management leadership and how risk management activities are structured or grouped to ensure efficiency and better performance. The sub-themes that emerged include CRO responsibility (67%) and risk management committee responsibility (33%). Table 6.5 contained the frequency distribution that summarized the themes that emerged from the thematic analysis. These two sub-themes clearly indicated the risk management structure focuses on the CRO responsibilities and the risk management committee functions. The structure of the three companies considers risks in all their decision process from the strategy setting to the implementation of the day to day business operations. And all risk management activities are anchored by the CROs who also form part of risk management committee membership. Below is an extract from one of the participating companies:

“Part of the organisational structure is that the regulatory agencies (NAICOM) require every insurance operator to have risk and compliance committee that actually oversee the implementation of decisions that have to do with risk management initiatives. In the case of our company, the committee has the responsibility of approving the implementation of ERM policy and get report from CRO who is actually implementing the committee decisions”
CRO (company A)

Table 6.5
ERM Leadership Role

ERM Leadership	Frequency	Proportion
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CRO	4	67%
Risk Management Committee	2	33%
Total	6	100%

Seemingly, the participating organisations used a top-bottom approach in their enterprise risk management program. Below is an excerpt from the CEO (company B) about the ERM leadership:

“The ERM start with the board commitment to best business practices. As such, the board members, I (the CEO) and the chairperson of the company are fully in support of the ERM initiative. In fact, now that the ERM is mandatory for all insurance companies operating in the country, NAICOM has started organizing workshops and seminars for firms to understand the importance of ERM concept. In our case both the board, the management, and the CRO are entirely responsible for implementation of ERM process in the organisation.”

Apparently, there is a clear demarcation of leadership responsibility for the ERM program to achieve its aim. The board members are saddled with the responsibility of ERM policy, but the actualization of ERM objectives are part of the routine duties of CROs who supervise the entire implementation process. The CRO answer directly to the Chief Executive Officer (CEO) of the participating firms.

6.2.5 ERM Challenges

Since ERM is an inclusive framework used to help organisations identify and assess risk in order to protect their operating efficiency. The whole idea behind ERM is that every risk can be considered as an opportunity to achieve competitive advantage. As such, certain factors are expected to drive the ERM processes. Table 6.6 shows key factors that the participating firms considered as barriers to the effective implementation of the ERM in their organisations. The results from thematic

analysis indicated four themes out of 15 data points. The issue of knowledge gap (33%), risk-aware culture (20%), lack of appropriate infrastructure (33%) and complex business environment (13%).

Table 6.6
ERM Challenges

Factors	Frequency	Proportion
Knowledge Gap	5	33%
Risk Aware Culture	3	20%
Supporting technology	5	33%
Complex environment	2	13%
Total	15	100%

Company C identified some challenges that serve as obstacles to the effectiveness of ERM initiative. The company believed that knowledge gap is among the greatest challenges facing the enterprise risk management initiative of the company. “We have the problem of qualified human resources that can derive our ERM programme”. In addition, he also emphasized resistance to change as a serious challenge. He noted that: “There is a serious problem of resistance to change, so the issue of training and development is critical to ERM implementation”. Additionally, extract from the CRO (company C) further explained the company’s ERM challenge:

“The risk aware culture constitute a serious challenge to the success of ERM implementation. If you have an organisation that is too conservative to risk issues, it will be difficult for it to implement ERM because of the too much resources involved. On our part, the board and the management are working very hard to ensure that risk aware culture permeates the company and risk aware culture become part of the employee performance evaluation metric”.

Similarly, CRO (company A) alluded that “lack of infrastructure and complex business environment may constitute a barrier to effective ERM implementation. Presently, firms are getting more expose to risk on a daily basis”.

While the three participating firms stressed the issue of knowledge gap, risk-aware culture, appropriate infrastructure and complex business environment serve as obstacles to the success of ERM. In fact, for ERM to succeed, all the employees of an organisation need to have minimum knowledge that will enable them to have a common language concerning risk management initiative. They believed that for the ERM initiative to be efficient, the financial institutions may need to come up with a risk management glossary that will facilitate risk knowledge dissemination among the employees.

6.2.6 Innovativeness

As presented in Table 6.7, two sub-themes emerged from the question that sought to find out the openness of the participating firms to new ideas. The analysis produced six data points with “receptiveness to new ideas” representing 33% and the “substance of an idea” represent 67% of the entire data points on the issue. While the three participating firms did consider new ideas in their decision-making process, the emphasis is not on the newness of the ideas but rather on whether the ideas facilitate the achievement of business objectives.

Table 6.7
Innovativeness

Innovativeness	Frequency	Proportion
----------------	-----------	------------

Receptive to new ideas	2	33%
Concern with the substance of the idea	4	67%
Total	6	100%

The CRO (company A) explained the position of his firm about new ideas:

“We only welcome new ideas, especially, if they will improve business processes. The organisation is abreast to what obtains in the industry regarding best practices and adjust quickly. We embraced ERM even before the 2013 regulatory directives because of our commitment to best business practices. We do not get enticed by new ideas but we are interested in ideas that facilitate business process”.

Similarly, responding to issues relating to the company receptiveness to new ideas, the CRO (company C) noted that:

“We accept new ideas that will improve commercial success. We are not so crazy about newness. It may interest you to note that we are among the first generations financial institution in the country. So newness is not the issue but the substance of an idea either new or old”.

Again, it appeared that the three participating companies embraced ERM not because of newness but because of their belief that ERM program will instil efficiency in their business operations and assist the achievement of business objectives. It is clear that innovativeness drives business success.

6.2.7 Impact of ERM Implementation

The results of the thematic analysis revealed 28 data points which the researcher classified into three sub-themes: increase in shareholder value, an increase in business efficiency and customer satisfaction. Table 6.8 presents the sub-themes and the frequency distribution. The increase in the shareholder value represents 39% of

the entire data points on the issue, increase in business efficiency represents 43% of the data points on the issues and finally, increase in customer satisfaction takes 18% of the entire data points.

Table 6.8
ERM Benefits

Impact of ERM Framework Implementation	Frequency	Proportion
Increase shareholder value	11	39%
Increase business efficiency	12	43%
Increase customer satisfaction	5	18%
Total	28	100%

For example, participants were clear about the driving force that encourages the implementation of ERM initiative even before the regulatory directives in some sub-sectors. The benefits of ERM are substantiated regarding an increase in revenue generation, an increase in other financial indices such as an increase in dividend, increase in sales and decrease in earnings volatility. Participants have indicated the enormous benefits that accrued to their organisations as results of ERM implementation. The CRO (company A) while responding to question on the value relevance of ERM noted that:

“Well, ERM has been very useful to us because we are operating in a competitive market environment. It has helped us in taking right business decisions. In fact, it is more relevant to us because what we sale is not tangible. What we sell is a promise, so it has increased our financial indices regarding revenue, sales, and dividend.”

Similarly, explaining the benefits of ERM implementation to the company, the CEO (company B) reported that: “We have started seeing some increase in revenue generation. A lot of wastages that we used to overlook now has come to light and

also our financial indices have gone up”. The CEO further expressed his opinion as follows:

“...the baseline regarding business efficiency and deliverables (i.e. giving the customer what he wants has significantly improved). I can say the attitude of our staff is now in line with the company’s risk management objectives. I am pretty sure that in some years to come, the benefits of implementing ERM model will be more visible to all”.

Similarly, the CRO (company C) expressed his experience on the issue as follows:

“I can tell you that the concept of ERM is a success to us. So far we have been able to increase our clients’ base. We have seen an increase in our turnover and we reduced cost substantially. The return on our investment has also increased, the volatility of the investment return is somewhat stable. In fact, I can say that our shareholders have experience value due to the ERM framework implementation.”

There seems to be a convergence of opinion among the three participating firms concerning the value creation drive of ERM in Nigerian financial industry. It appeared from the interview that the participating firms are entirely satisfied with the benefits of ERM implementation both regarding financial and non-financial indices.

6.3 Conclusion

The chapter has presented the thematic analysis of the interview with the three firms that volunteered to participate in the interview. The thematic analysis involves locating some important features in the data (themes and sub-themes), using coding to represent the ideas. The interview was used to provide more information concerning why firms implement ERM framework? The discussions revealed that the participating institutions had a strong belief in the value relevance of ERM. For example, the three participating

firms have a general grasp of the theoretical argument about the value relevance of ERM. They indicated that ERM implementation was motivated by the need to create shareholder value, urge for best business practices and the need for regulatory compliance. Another important revelation of the thematic analysis relates to the fact that the participating firms believed that ERM implementation guard the firm against operational, reputational, strategic, political and regulatory risks in addition to liquidity, market, investment and credit risks. The participating companies also identified four broad factors that constitute barriers to effective implementation of the ERM concept. The factors include manpower, risk-aware culture, lack of infrastructure and complex business environment. Again, the three participating firms are not crazy about the newness of an idea they emphasize the substance of the idea. Additionally, the findings show that increase shareholder value, increase business efficiency and high customer satisfaction as some of the accrued benefits of ERM implementation. The next chapter (chapter 7) presents the discussions, conclusions, recommendation, theoretical and practical implications for this current study.

CHAPTER SEVEN

DISCUSSION, CONCLUSION, AND RECOMMENDATION

7.1 Introduction

This chapter completes the research process with the discussion of the research findings, conclusion, and recommendation. More specifically, the chapter is structured as follows. The second section gives a recap of the findings of the study. Section three presents the research findings (both the survey data and the interview) in relation to the ERM literature stream. The fourth section discusses the study implications. Section five presents limitations of the study and provides suggestions for future research directions. Finally, the chapter was rounded up with the conclusion.

7.2 Recapitulation of the Study Findings

The section presents a recap of the research findings in line with the objectives of the study. The prime objective of this study is to examine the influence of ERM practices on the performance of financial institutions in Nigeria. Specifically, the variables of the study include ERM framework implementation, ERM success factors (compliance, risk management information system, risk knowledge sharing, staff competence, organizational innovativeness and leadership role) and board equity ownership as a moderating variable. The independent variables (ERM framework implementation and ERM success factors) were hypothesized to positively influence firm performance while the moderating variable (Board Equity Ownership) was introduced to strengthen the relationship between the independent and the dependent variables.

Largely, this current study has succeeded in advancing the frontier of knowledge

concerning the current understanding of ERM framework implementation as well as in determining other success factors that influence the performance of financial institutions in Nigeria. Specifically, the study is aimed at achieving the following objectives:

1. To examine the extent of ERM practices in the Nigerian Financial Industry.
2. To examine the influence of ERM framework adoption on firm's performance.
3. To determine the effects of ERM success factors on firm's performance.
4. To examine the moderating effect of board equity ownership on the relationship between the ERM frameworks, ERM success factors, and firm's performance.
5. To understand ERM practices in the Nigerian financial industry.

To answer the research objectives, the conceptual framework was underpinned by the MPT theory, which posits that firm's ability to improve performance is influenced by the portfolio management of risks. Further, the study variables were also supported by the agency theory and the resource-based view. The sixteen hypotheses were tested statistically based on PLS-SEM with the aid of SmartPLS 2.0 statistical package. Based on the statistical analysis, eleven hypotheses were supported, out of which seven are direct and four are moderating hypotheses.

7.3 Discussion

This section discusses the empirical results in relation to the findings of previous studies. The subheadings under this section are structured according to the research questions and objectives of the study.

7.3.1 ERM Practices

One of the objectives of this study is to examine the risk management practices of the Nigerian financial industry. To achieve this objective, the study used frequency and chi-square distribution to analyze the survey data. Again, an interview was conducted as a supplemental role to the survey data with a view to giving a better insight on why financial institutions implement ERM programme. As such, the results of the survey and the interview were combined to enable thorough discussion and in-depth understanding the ERM practices in the Nigerian financial sector.

The descriptive analysis of the survey data indicated that 99.40% of the study sample prioritizes risk management program as an effective strategy to achieve organizational objectives. This is not surprising considering services provided by financial institutions. The nature of services financial institutions rendered makes the issue of risk management an integral part of their business plan (Oldfield & Santomero, 1997). Similarly, the cost of economic distress has made it necessary for organizations to show concern on the variability of firm performance (Oldfield & Santomero, 1997). The result is in line with a study sponsored by AIG in 2014, which revealed that 79 percent of the number of financial companies that participated in the survey considered ERM a big priority. Similarly, the interview data indicated that financial institution in Nigeria fully understood the ERM model. They view ERM as a holistic risk management approach that requires the commitment of each and every employee. Again, the companies' perception of ERM is in line with the conception of COSO framework and ISO 31000 framework. The nature of services provided by financial institutions informs their risk management priorities.

Again, the ERM practices of the two major sub-sectors of the financial sector, banking, and insurance might be ahead of other financial institutions (pension, mortgage and microfinance) perhaps because those in charge of their ERM program falls within the rank of CRO and RO. As these people may have more experience on issues relating to risk management. These two sectors dominate the Nigerian financial sector, as such, tend to be more forward looking in their ERM program. Again, out of the 104 firms that have comprehensively embraced ERM, 69 firms (banks and insurance companies) representing about 66.34 percent, largely have CRO and RO as their risk management head. The CRO position in an organization signifies the presence of ERM initiative (Daud *et al.*, 2010). The CRO assists in determining the risk appetite and risk tolerance level of a firm. It is also part of the CRO's responsibility to ensure efficient utilization of resources in funding business opportunities (Lamser & Helland, 2000). They (CRO) are expected to provide general advice on issues relating to business strategies and the entire risk facing a business entity (Arena *et al.*, 2010). Likewise, the interview data indicated that explicit CRO leadership responsibility and the presence of risk management team are important to the effectiveness of ERM implementation. Also, the command of authority as to whether the CRO report directly to the board or the CRO reports to the CEO further inform the efficiency of the ERM practices of the participating firms. The three interviewed companies considers risks in all their decision process from the strategy setting to the implementation of the day to day business operations. Apparently, a clear demarcation of leadership responsibility for CRO was in place. The CROs report directly to the Chief Executive Officer (CEO) of the three corporations. Beasley et al. (2005) indicated that the presence of CRO is important in

promoting effective risk management practices. Hence, the interview finding is in agreement with the results of the survey data.

Moreover, establishing effective ERM is associated with several challenges. As explained in chapter two, ERM is simply a strategy that aims at identifying and managing risks, as well as exploiting opportunities in line with the business objective of a firm. The success or otherwise of ERM is linked to a number of factors. The first step of ERM implementation in the organization is to acquire the mandate of the board of directors to buy-in and support the idea of implementation. Secondly, ERM is viewed as the responsibility of each and every person working in an organization. Thus, it requires the understanding of all aspects of risk facing a business entity for a better and cost effective analysis of each and every business decision (BaxterBruce Ltd, 2013).

The survey data indicated that 94 firms representing 57.7 percent of the sampled population agreed that they are confronted with some challenges that seriously undermined their ERM implementation process. These challenges (uncertain regulatory environment, managing change, attracting and retaining talent, adequate infrastructure, huge financial resources and fear of compliance failure) constitute some of the major problems that affect ERM initiative in the Nigerian financial sector. The remaining 42.3% respondents indicated that at least 4 out of the 6 mentioned challenges serve as constraints to ERM implementation. Therefore, managing change, attracting and retaining talent, inadequate infrastructure, and huge financial resources are the most cited barriers to ERM implementation. Additionally, the interview data indicated four major challenges of ERM implementation. They

include manpower, risk-aware culture, lack of supporting technology, and complex business environment. The findings are consistent with Fadun (2013a), who identified system complexity, training, education and risk aware culture as some of the major implementation challenges of ERM. Further, the study indicated that some of these implementation challenges tend to be more severe to firms that have inept human resources and poor corporate governance practices.

Despite the commitment of all the subsectors (banking, insurance, pension, mortgage, and microfinance) to risk management practices, three of the subsectors of the study sample (pension, mortgage institutions and microfinance) do not have CROs at the helm of their ERM program. This may possibly relate to a number of challenges that affect ERM implementation. The analysis of the challenges facing ERM implementation indicated that these subsectors (pension, mortgage institutions and microfinance) appeared to be confronted by several challenges that include uncertain regulatory environment, managing change, attracting and retaining talent, adequate supporting technology and huge financial resources gap. Again, previous studies (Arena *et al.*, 2010; Malik & Holt, 2013) have identified risk technologies, employee training, and financial resources as major constraints to an effective ERM framework implementation. Hence, the findings of this study is consistent with Arena *et al.* (2010) and Malik and Holt, (2013) at least in terms of technological constraints and huge financial resource gap.

Fadun (2013) identified defining the risk terminology, selecting a framework, creating a risk-aware culture and deployment of supporting technology as part of the major ERM implementation challenges in Nigeria. Kerstin *et al.* (2014) reported that

inability of firms to determine suitable metrics, the manpower crisis and the complexity of the business environment as impediments to ERM implementation.

Regarding the level of implementation, out of the five sub-sectors, the two subsectors (banking and insurance) have either fully or partially implemented the ERM program. This development may not be unconnected with the importance of these important segments of the financial sector. Apart from the general regulations that guide the financial sector, the banking, and the insurance sub-sectors are guided by more regulations to ensure the safety of financial transactions (PriceWaterhouseCoopers, 2013). This may inform some of the reasons why these two segments of the financial subsectors have less challenge in terms of their ERM practices when compared with other subsectors of the financial industry. Conversely, the majority of the pension, mortgage and micro-finance firms have either partially implemented ERM or they are at the initial stage of implementation.

The analysis in chapter five further indicated the ERM practices of banking and insurance companies' subsectors are leading as they applied all the identified ERM practices components. These include improve risk assessment, commitment to regulatory provisions, improve measurement of financial, operational and strategic risks; improve risk reporting system, improve risk management decision making and the interaction efficiency among various departments/units. The ability to integrate these components in a firm's risk management practices indicate how engrossed the firm is to ERM. While the Nigerian financial sector shows high regard to effective ERM practices, again, it can be concluded that the ERM practices of the two main subsectors (banking and insurance) turned out to be in the forefront.

On the factors that drive ERM implementation, the survey data identified 8 factors that include regulatory compliance, the board of directors' mandate, technological advancement, effective corporate governance, complex business environment, competitive pressure, stakeholder pressure and surge in the need for best business practices. While the study indicated that 79.1% of the sampled firms get motivated by all the 8 mentioned factors, 20.9% reported that they get motivated by some of these cited factors. Specifically, most of the firms are attracted ERM due to regulatory compliance, the surge for best business practices, effective corporate governance practices, competitive pressure and stakeholder pressure. These factors are cited by the entire sample firms. Similarly, the interview data identifies three major themes that include value creation, the urge for best business practices and regulatory compliance as among the major motivating factors that encouraged ERM framework implementation.

Hence, the findings on factors that drive ERM implementation are in agreement with the ERM literature. Several studies have identified value creation as the main motivating factor for ERM adoption (Ghazali & Manab, 2013; Hussin, Yazid, & Razali, 2012; McShane *et al.*, 2011; Yow & Sherris, 2008). For the financial sector, the surge for best business practices have encouraged financial institutions to be more forward looking in their risk management initiative, hence embraced ERM (AIG, 2014; Feridun, 2006; McNish, Schlosser, Selandari, Stegemann, & Vorholt, 2013). Similarly, the results are consistent with Soyemi, Ogunleye and Ashogbon (2014), who argued that the search for best business practice had made it necessary for financial institutions to prioritize risk management strategy. In addition,

Abdullah et al. (2012) reported that improved corporate governance practices, regulatory compliance, and top management support as among the main factors that encourage ERM adoption.

However, some firms (particularly insurance) are of the view that compliance with regulatory provision was an energizer as some of the sampled firms had ERM in place even before the regulatory directives. While regulatory provisions may be an important factor the results of the interview indicated that most of the firms, particularly banking and insurance firms that have implemented ERM were encouraged by the need to embrace best business practices. Similarly, the results are in line with the position of American Institute for Chartered Property Casualty Underwriters (2013), who reported that external influence such as legislations and regulatory provisions serve as drivers to ERM implementation.

Moreover, the analysis of the major risk focus of the firms revealed that all the sampled firms pay considerable attention to financial, operational, strategic, reputational and legal risks. Among these risks, financial risks tend to be ahead of all the cited risks with all the firms considering it as an area of top focus. This may not be unconnected to the nature of financial risks which serve as an umbrella to several aspect of risk. In a general term, financial risk is viewed as any variability in the cash flows and stock value of a company due to the influence of different forces such as interest rates, exchange rates, commodity and stock prices among others (Blach, 2010).

On the other hand, 14% of microfinance companies considered strategic risk as an area of less concern. Moreover, in spite of the importance of strategic risks, the existing risk management techniques that heavily relied on historical data to model risk may not efficiently deal with strategic risk. Allan and Beer (2006) indicated that the difficulty associated with the management of strategic risk may not be unconnected with the “interconnected dynamic processes” of strategic risks. The findings shows that less priority is given to strategic risk perhaps due to the fact that the root causes of strategic risks is related to human inefficiencies which might be highly unpredictable. Strategic risks forced managers to rely on subjective judgement when quantitative techniques fail to make sense of complex business interactions. Again, the ERM practices of the majority of the microfinance companies in the study sample are either partially or at initial stages of ERM implementation.

Equally, the interview data has identified several types of risks that encouraged financial institutions to implement ERM framework. The risks were grouped into financial and nonfinancial. Risks that are directly related to financing were categorized as financial, they include investment risk, credit risk and liquidity risk. While other risks that are not directly related to business cash flow are categorized as nonfinancial risks. They include operational risk, reputational risk, strategic risk, political risk, legal risk and regulatory risk and cybercrime security risk. The interview data provided evidence to believe that financial institution implemented ERM to guard against both these two groups of risks (financial and the non-financial risks). Non-financial risks are also critical features that may encourage firms to implement ERM model. It has corroborated the survey data which indicated both

financial and nonfinancial risks as among the major risks concern of financial institutions. The result is consistent with previous empirical studies (McShane *et al.*, 2011; Nocco & Stulz, 2006), that identified financial distress as a major risk concern for ERM implementation. While banking and insurance had made major strides in their ERM practices, pension, mortgage, and microfinance are either at partial or initial stages of implementation. Perhaps because these three subsectors (pension, mortgage, and microfinance) are confronted with more implementation challenges compared to the two other sub-sectors (banking and insurance). Generally, the major ERM challenges confronting the Nigerian financial industry relates to manpower gap, risk-aware culture, infrastructure, and complex business environment.

7.3.2 Relationship between ERM Framework and Firm Performance

The second objective of this study is to examine the influence of ERM framework implementation on firm performance. In this present study, ERM framework is conceptualized as a structure that provides the context and the methods to deliver ERM objective of an organization. It explains the processes and the procedures for strengthening ERM practices in an organization with a view to increasing firm performance. ERM framework is one of the essential factors that signal the implementation of ERM in organizations (Dafikpaku, 2011; Thornton, 2009).

To achieve this objective, H1 hypothesized that ERM framework implementation is positively related to firm performance. As postulated, the relationship between ERM framework and firm performance was found to be positive and significant. These empirical findings coincided with the results of previous studies that found ERM implementation to positively influence firm performance (Bertinetti *et al.*, 2013;

Gates *et al.*, 2012; Hoyt & Liebenberg, 2011; Lai & Samad, 2011; Laisasikorn & Rompho, 2014; Manab & Ghazali, 2013). Apparently, the findings validate the formulated hypothesis as well as provide an answer to the related research question.

Additionally, the interview results have revealed three themes that represented the main benefits of ERM framework implementation. These benefits are an increase in shareholder value, high business efficiency and high customer satisfaction. The survey data and the analysis of the interview data indicated the major benefits of ERM implementation. The results are in agreement with previous studies that identified shareholder values, customer satisfaction and better decisions making the process as among the benefits of ERM implementation (Asat *et al.*, 2015; Gates *et al.*, 2012). Apparently, the analysis of the interview data indicated that the participating firms that fully implemented ERM were entirely satisfied with the benefits of ERM practices both in terms of financial and non-financial indices.

Generally, the result provides further support for extending the MPT theory to enterprise risk management by confirming the positive effect of ERM practices on the performance of firms in the financial sector. While MPT provides the mechanism for examining the risk of financial assets collectively and assessing the contribution of each security to the portfolio (Casualty Actuarial Society, 2003); the ERM extends the concept beyond financial risks to incorporate all types of risks (portfolio of risks) an organization faces.

Similarly, as indicated in the literature, the insurance sector utilized the ERM framework provided by NAICOM specifically for licensed insurance companies while the banking, mortgage and the microfinance sub-sectors adopted the risk

management framework provided by CBN designed to specifically guide mortgage and microfinance institutions. As cited in the literature, there are different types of ERM framework. For example, the ISO 31000 is a universal ERM framework that suits the demand of every organization regardless of complexity, size or type. Even the ISO 31000 that was meant to be used by different organizations, may require some form of adjustment to suit the business objectives of a firm. Hence, the majority of the sampled firms have ERM framework that guides their ERM practices.

Therefore, this study indicates that ERM framework implementation as an effective risk management strategy enhances the performance of financial institutions in Nigeria. In summary, the result indicated that financial institutions need to have the capacity to put in place an effective risk management program to guard against uncertainties and at the same time exploit more business opportunities.

7.3.3 Relationship between ERM Success Factors and the firm Performance

The third objective of this study examined the relationship between ERM success factors and the performance of financial institutions in Nigeria. Therefore, seven hypotheses were formulated to examine the relationship between ERM success factors (compliance, risk management information system, risk knowledge sharing, staff competence, organizational innovativeness and leadership role) and the performance of financial institutions.

Firstly, compliance refers to the effort by a firm to comply with policies, conventions, and regulations that are expected to facilitate the achievement of

business objectives. In other words, it refers to the ability of a firm to adhere to the applicable laws and regulations, including both internal and external policies (Steinberg, 2011). In this regard, the study tested the second hypothesis (H2), which stated that compliance positively relates to firm performance. It may be recalled that this study operationalized compliance as the ability and willingness of a firm to comply with policies, laws and other regulations either internally or externally related to best business practices and risk management initiatives. Based on the PLS regression results, compliance is found to be positively related to firm performance; thereby supporting the hypothesized relationship. Logically, it is an indication that when firms adhere to applicable laws and provisions there would be high tendency to improve firm performance. The findings observed in this study are consistent with the previous studies that have reported the positive influence of compliance on firm performance (Abiola & Ojo, 2012; Alves & Mendes, 2001; Beltratti & Stulz, 2009; Martens & Teuteberg, 2011).

Also, this result provides support for theoretical explanations of firm performance based on firms' ability to comply with various internal and external provisions as postulated by the agency theory. It is also important to note that the quality of the regulatory provisions is critical towards effective compliance processes for firms. Studies have indicated that poor regulatory provisions decrease compliance and reduce the ability of the firms to achieve their objectives (Tariq & Abbas, 2013). In this perspective, compliance is a crucial factor to the success of ERM as well as in its capacity to improve firm performance.

Secondly, the third hypothesis (H3) stated that risk management culture is positively related to the performance of financial institutions in Nigeria. The study conceptualizes RMIS as a system that collects, stores and disseminates risk information to various business unit to support business operations. As expected, the PLS regression result revealed a significant relationship between firm risk culture and the performance of financial institutions. This finding suggests that firms with positive risk culture are more likely to have a more robust risk management program that will effectively improve firm performance. Congruent to the result of this study, previous scholars have shown that risk culture positively influences firm performance (Ernst and Young, 2014; Kimbrough & Componation, 2009; McShane *et al.*, 2011; Ngo & Loi, 2008; Uzokurt *et al.*, 2013). Nursing a solid risk culture within a business firm is fundamental to a corporate sector that is continually faced with vulnerabilities (Abd Razak *et al.*, 2016). The study concluded that there is the need for firms in the financial industry to pay special attention to the development of positive risk culture within their domain.

This finding further supports the notion of the resource-based view theory, which states that firm performance is a function of a number of strategically important resources. The study indicates that risk culture is an important strategic resource that influences firm performance. A successful risk culture model, therefore, needs to account for all the meaningful interactions that exist within and outside the organizations for efficient strategic business decisions. In fact, it is difficult to identify a highly successful company that does not have a unique, freely identifiable corporate culture. Therefore, financial institutions need to view risk culture from more functional and strategic oriented perspectives to strengthen their performance.

Thirdly, the present study also hypothesized that risk management information system is positively related to firm performance (H4). As expected, the findings revealed a significant positive relationship between risk management information system and firm performance. The findings suggest that firms that have effective risk information management and possess the capacity to process information are likely to enhance performance. The findings of the study are in agreement with previous studies (Gaines *et al.*, 2007; Gibson, 1997; Laudon & Laudon, 2012; Rodriguez & Edwards, 2010) who reported that information management is positively related to firm performance. Drawing from the resource-based view theory, Ravichandran *et al.* (2005), risk management information capability is an important strategic resource that gives a firm competitive edge. The ability of a firm to manage fortuity depends to a large extent on available information at its disposal. Hence, the finding supports the theory. Again, the firms need to put in place specific data management infrastructure that will ease ERM practices.

Fourthly, with respect to the fifth hypothesis (H5), as presumed, the PLS path modeling results revealed that risk knowledge sharing significantly influences firm performance. The study operationalized risk knowledge sharing as an organizational strategy that facilitates the management of fortuities in the organization through the exchange of risk knowledge among different business units. This particular result is consistent with existing research on knowledge sharing (Hartono & Sheng, 2015; Hora & Klassen, 2013; Liao *et al.*, 2011; Rehman *et al.*, 2015; Rodriguez & Edwards, 2009b), who reported that knowledge sharing has a positive influence on firm performance. More specifically, some of these studies suggested the need for firms to put in place organizational systems that encourage and enhance knowledge

sharing and acquisition. In this regard, risk knowledge dissemination typically enhances risk management capabilities and improve operating efficiency. Therefore, knowledge sharing as a strategic resource, if fully utilized may lead to better firm performance.

Again, referring to the sixth hypothesis (H6), the findings of the study supported the hypothesized relationship that staff competence has a positive significant relationship to firm performance. This study operationalized competence as the degree to which organizational members are perceived as being skillful and reliable in performing their task. The connection between staff competency and firm performance confirms the theoretical assumptions of RBV theory that views competence as a "unique" corporate resource that is valuable, rare, difficult to imitate, and nonsubstitutable by other resources (Baney, 1991; Baney, Wright, David, & Ketchen, 2001). The capability of firm's human resource if fully utilized can make a firm achieve a competitive edge. The results of this study are consistent with the previous literature (Dooley & Fryxell, 1999; Ekrot *et al.*, 2016; Ismail & Abidin, 2010; Yaraghi & Langhe, 2011) that established a positive significant relationship between competence and firm performance. These findings suggested that competence as an important resource is critical to the success of a financial institution.

It indicates that for financial institutions to effectively perform its employees need to be sufficiently qualified and acquire the analytical ability to identify bottleneck zones that may degrade firm performance. It is even more critical to financial institutions that require the technique of sophisticated risk modelling for easier

detection and quantification of risk. Staff competence is not just a firm's intangible assets but is the lifeblood that shapes the entire business operations. Employee competence gives firms the competitive advantage to explore business opportunities and formulate policies that will allow the firm to achieve better performance. Consequently, financial institutions need to have a competency framework that will enable their staff to distinguish themselves by giving high priorities to human capital and development.

The seventh hypothesis (H7) postulated that innovativeness is positively related to firm performance. Earlier, this current study operationalized innovativeness as the willingness and ability of a firm to be opened, receptive and engage in supportive and creative activities that may result in better performance. Contrary to expectations, the finding was not supported. Though the finding is significant but it is negatively related to firm performance, hence the hypothesis was not supported. Contrary to previous studies that established positive relationships between innovativeness and firm performance (Baregheh *et al.*, 2009; Suliyanto & Rahab, 2012; Tajeddini, 2016; Tajudin *et al.*, 2012; Wang *et al.*, 2004), the study is closely related to the finding of Damanpour and Evan, (1990); Lin and Chen (2007) who reported a weak relationship between innovativeness and firm performance.

On the contrary, the interview findings on innovativeness indicated that the financial institutions in Nigeria are not engrossed to newness of an idea but rather on how an idea (be it new or old) is able to facilitate the business process. In other words, the Nigerian financial institutions are receptive to ideas that can facilitate business processes which invariably improves firm performance. While the interviewed

companies considered “receptiveness to new ideas” as critical to firm performance, they considered the substance of the idea as the most critical innovative drive that is likely to improve firm performance. As expected, the interview results indicated that innovativeness improves firm performance. As such, the results of the interview are in agreement with several previous studies that provided evidence on the positive relationship between innovativeness and firm performance (Baregheh *et al.*, 2009; Suliyanto & Rahab, 2012; Tajeddini, 2016; Tajudin *et al.*, 2012; Wang *et al.*, 2004). Hence, it is apparent from the interview results that innovativeness improves firm performance.

However, considering the fact that the survey result is not in agreement with the majority of empirical studies, this could warrant a number of explanations responsible for such findings. A possible explanation for this finding may be based on the assertion that innovativeness as an important success factor may be affected by inertia (Barlet *et al.*, 2000). Inertia is an aspect of organizational behaviour that expresses high resistance to new ideas. Some financial institutions in Nigeria are yet to recover from the shock of meltdown and poor practices that forced CBN to fire the managing directors of 8 banks along with their board members (Sanusi, 2010a). This development might be part of the reasons for this findings.

Again, in a relatively stable environment, there will be no need for firms to innovate as innovation may not generate the required response fit to improve organizational performance (Subramanian, 1996). It may be possible that after the CBN has rescued some institutions by injecting about \$3.2 billion (Sanusi, 2010b). It may be possible that majority of the institutions decided to look inward to stabilize before embarking

on any innovative strides. In addition, Damanpour and Evan (1990) believed that innovativeness is time sensitive, it changes over time and it depends on the way and manner the construct is measured.

Another possible inference that leads to this findings may be the aftermath of the global economic meltdown. The post effect of the economic meltdown has made some financial institutions to focus on cutting costs strategies to scale up their efficiency level. According to PWC (2014), this approach may not lead to innovative behaviour.

Additionally, the issue of sampling of the interview participants might be part of the reasons that led to the difference in the findings. The qualitative approach used purposive sampling where participants were selected based on willingness to participate. As such, sampling bias may perhaps be one of the reasons that led to the contradictory findings on the issue of innovativeness between the survey and interview results. Nevertheless, this study believed that innovativeness is still a central factor to performance and risk management initiative. Hence, future research effort may be required to identify conditions under which innovativeness influence performance.

Finally, the eight hypothesis (H8) assumed leadership factor is positively related to the performance of financial institutions in Nigeria. As postulated the hypothesis is supported. Earlier, the study conceptualized leadership role to mean the capacity of the risk management leadership to establish direction and to stimulates other personnel toward achieving a common organisational objective that will strengthen ERM program and enhance firm performance. The findings further confirmed the

position of previous studies that reported a positive significant relationship between the leadership role and firm performance. Therefore, this result corroborates empirically the connection between leadership role and firm performance (Aziz *et al.*, 2013; Frigo & Anderson, 2011a; Kleffner, Lee, & McGannon, 2003a; Liebenberg & Hoyt, 2003; Ozsahin *et al.*, 2011; Yazid *et al.*, 2011). This finding proposes that leadership roles that are clear and precise are capable of steering both human and material resources in a manner that will drive firm performance. Plowman *et al.* (2007) believed that one of the responsibilities of leaders is problem solving. Hence, they are expected to provide the enabling environment that greatly influence firm performance. As such, this finding will be helpful to the Nigerian financial industry to enhance ERM leadership capabilities as a critical success factor that improves firm performance.

On the overall, the R^2 value (32.70%) for this study falls on the substantial category as suggested by Murphy, Myers and Wolach (2014). The R^2 value for this study is relatively within the range of some related ERM studies that reported low R^2 value (Li, Wu, Ojiako, Marshall, & Chipulu, 2014; Manab & Ghazali, 2013; Sekerci, 2013). Similarly, the effect size (0.046) of the independent variables on the dependent variable was categorized as small based on Cohen (1988) criteria. This indicates that other factors apart from ERM implementation may also exert some influence on the performance of financial institutions in Nigeria. Getting an ERM framework though necessary may not be a sufficient condition for the ERM to be effective in a way that it will positively influence performance. Further, the results of the descriptive indicated that only 37.40 percent have fully implemented ERM while 36.80 percent and 25.80 percent are at the partial and initial implementation stages

respectively. This might inform some of the reasons of low effect size as almost half of the study sample are at the initial stage of ERM framework implementation.

7.3.4 Moderating Effect of Board Equity Ownership

The aftermath of the global economic meltdown has made policy makers to raise the issue concerning whether firms are managed in the best interest of the shareholders (Pergola *et al.*, 2009). In particular, the firms may be fully under the control of the management with little supervision. This problem may be severe in business organizations that have a widely dispersed ownership structure. Under such situation conflict may arise between the owners and the managers of the firm. As such board monitoring has been proposed as one of the mechanisms that can bring some form of control (Gompers *et al.*, 2003). In addition, some scholars have proposed chief executive officer incentives as one of the strategies that may solve the conflict problem between management and shareholders. Peasnell *et al.* (2003) reported that allowing board of director to acquire some form of stock ownership may instill some level of alignment between the interest of the board members and that of the shareholders.

Apparently, the board of directors' equity holdings may align the interest of the board members with those of the shareholders which will invariably improve the BOD supervisory role. It may further encourage the board members to implement any policy (such as ERM implementation) that has the capacity to shield the business assets and increase the operating efficiency of a firm. In fact, it has been argued that board members with equity holding may have a captivating interest to run the firm efficiently (Bhagat & Bolton, 2008; Kwanbo & Abdul-qadir, 2013). Thus, in this

study, board equity ownership (BEO) is defined as a strategy that provides an opportunity for the board of directors to own a certain percentage of shares resulting to efficient board monitoring and higher firm performance. Hence, Board members with equity holding may be more methodical and dedicated to risk management issues. Following this discussion, the fourth objective of this study was to examine the moderating role of BEO on the relationship between ERM framework implementation and the performance of the financial institution in Nigeria.

7.3.4.1 The Moderating Effect of BEO on the Relationship between ERM Framework and Firm Performance

With respect to the fourth research objective, the eight formulated hypotheses (i.e., H9, H10, H11, H12, H13, H14, H15, and H16) were tested using the partial least square path modeling. Hypothesis H9 stated that BEO moderates the positive relationship between ERM framework implementation and firm performance. As reported earlier, the results of the interaction (ERM Framework*BEO) revealed a positive moderation effect and supported the hypothesized relationship. Specifically, the relationship between ERM framework implementation and firm performance is stronger for firms that encourage BEO than it is for firms that discourage BEO. This finding suggests the need for possible explanations of the moderating effect of the BEO from the theoretical perspectives.

Based on the proposition of the agency theory, the conversion of interest hypothesis, which assumed that as the equity ownership of the board of directors rises, BOD are likely to align their interest with the interest of shareholders which will further improve quality decisions that eventually increase the firm performance (Beasley,

1996; Jensen & Meckling, 1976). Pergola *et al.* (2009) contended that as the board equity ownership increases, the interests of the board members incrementally become more aligned with the interests of the shareholders. As the BOD interests become aligned with the interest of the shareholders, the board may be more conscientious in terms of monitoring and create an environment that will encourage the implementation of good strategies (ERM), capable of improving the performance of firms.

Another theoretical perspective that is connected to agency theory is the issues of interest entrenchment. The “entrenchment” of interest has similar expectations concerning the behaviour of board members both at the extremely low and extremely high levels of stock ownership (Pergola *et al.*, 2009). The theory asserted that at low equity ownership levels the interests of the board of directors are not likely aligned with the shareholders which provide them with no power to undermine governance mechanisms. On the other hand, at high stock ownership levels, the board of directors’ interest is aligned with the interest of the shareholders and taking any inappropriate actions about the firm would only subvert their interest. Fama and Jensen (1983) argued that allowing the BOD to acquire relatively large equity (but not extreme ownership levels) may lead to abuse of power. It may create the possibility of abuse where the interest of the BOD become entrenched thereby leading to abuse (Vintila & Gherghina, 2014). Though BEO help firms to implement policies and strategies that will positively improve performance, regulators need to put a caveat to prevent abuse.

7.3.4.2 The Moderating Effect of BEO on the Relationship between ERM Success Factors and Firm Performance

The hypothesis (H10) concerning the moderating effect of BEO on the relationship between compliance and firm performance was supported. This finding suggests that BEO acted as a catalyst for better compliance which then strengthen firm performance. In other words, financial firms with high BEO holdings are more likely to put in place good business strategies that will ensure compliance with all types of business provisions. Roach (2007) reported that it is part of the responsibility of the board to set compliance and ethics program and requires meaningful, substantive reporting on the organization's compliance and ethics activities. This suggests that some form of ownership feelings will improve compliance level. More importantly, the finding further indicated that the higher the BEO holding the more committed the firm will be in complying with both internal and external provisions that are capable of improving performance.

Contrary to the expectation of this study, the hypothesis (H11) was not supported. In other words, the present study failed to support the hypothesized statements that BEO moderates the positive relationship between risk culture and firm performance. BEO is assumed to improve the monitoring capability of the board to encourage a positive culture in order to effectively manage risk and improve firm's viability. Though the study did not find support for the interaction effect, earlier this study have established a strong direct positive relationship between risk culture and firm performance. It is important to note that the persistence of business failures within financial institutions suggest that managing risk without a supportive risk culture may not achieve the desired results (Institute of Risk Management [IRM], 2012). To

achieve better performance the Nigerian financial institutions should create a work environment that supports positive risk culture.

The failure of the BEO to moderate the relationship between risk culture and firm performance may require some possible explanations. First, while the board is expected to communicate and ensure that a positive risk culture influence business operations, it is the responsibility of the management to enforce positive risk culture within the organizational domain (Ernst & Young, 2015). In certain situation, the management may frustrate the efforts of the board by not providing the board with sufficient information to enable them to make effective decisions.

Similarly, the board performs a part time job, it does not get to each and every office of the company (for the board members to clearly understand the firm's culture), and as such, they are usually exposed to the top management of the firm. Secondly, culture requires a sustained effort and time to adapt to the environment. As such, information availability is critical to effective board decisions. Thus, it is the management responsibility to equip the board with the requisite information concerning a firm's risk culture, for the board to act appropriately (Financial Stability Board, 2014). In the context of Nigeria, this finding may be due to the inability of the management to provide information to the board for them to act in formulating policies that will improve the relationship between risk culture and firm performance.

Secondly, the twelfth hypothesis (H12) stated that BEO moderates the positive relationship between risk management information System and firm performance.

As expected, the hypothesis was supported. This result suggests the importance of information management as an important risk management success factor that eases business operations. For any firm to effectively manage risk it requires a standard database management information system that facilitates risk analysis. Levine (2004) contended that a number of reasons have made it necessary for firms to utilize information management facilities in order to improve its risk management capabilities and further gain competitive advantage. The presence of BEO in a firm may encourage the deployment of technology that will ensure a better information management capable of improving firm performance. The tendency for firms to achieve higher performance increases with better information management (Gibson, 1998). Again, it is expected that BEO will enable firm to deploy the right technology to enhance firm performance.

Similarly, the thirteenth hypothesis (H13) stated that BEO moderates the positive relationship between risk knowledge sharing and firm performance. As expected, the hypothesis was supported. The finding supports the view that emphasizes the importance of knowledge sharing in improving the efficiency and the success of ERM practices and firm performance (Rodriguez & Edwards, 2010). Similarly, the monitoring capability of the board with a high concentration of BEO may strengthen the firm knowledge sharing mechanisms. In fact, there is a general conception that sharing and acquiring new knowledge is fundamental for firms to achieve higher performance (Ritala *et al.*, 2014; Wang *et al.*, 2014).

Conversely, the study failed to support the fourteenth hypothesis (H14) which stated that BEO moderates the positive relationship between staff competency and firm

performance. However, the study established a direct positive relationship between staff competency and firm performance. The argument of the moderating variable (BEO) is that the ownership is expected to lead to the alignment of interest between the board members and other shareholders. Hence, staff recruitment is outside the responsibility of the board, hence the BEOs may have a limited role in ensuring the competence of the staff. Staff development is under the purview of the management (Hoddinott, 2007). Yet, staff competence have been proven to be a critical success factor that improves firm performance. As such, financial institutions need to come up with a competency framework to improve the capabilities of their manpower.

Again, the study failed to support the hypothesis (H15) which stated that BEO moderates the positive relationship between organizational innovativeness and firm performance. Similarly, the result is not entirely unexpected given the fact that the study failed to establish a direct positive link between organizational innovativeness and firm performance. Additionally, the inability of the BEO to moderate the relationship may be connected to the main function of the board. The board is not directly involved in the implementation of policy decisions (CBN, 2014a). Though one may argue that the board members set the policy direction, innovativeness is something that is market driven and its success may depend on a number of multiple factors such as the time, measurement (i.e. whether it unidimensional or multidimensional) and the level of competence the firm possesses.

Finally, the study tested the sixteenth hypothesis (H16) which stated that BEO moderates the positive relationship between leadership role and firm performance. Again, contrary to the expectations, the hypothesis was not supported. Given the fact

that leadership role is one of the focal point of board members in every organization, it is expected that these findings may require some explanations. The possible reason for this may relate to the board appointment. Some studies have reported that some top managers exhibit some forms of ingratiation actions toward their CEO, which enable them to receive board appointments at the firms where their CEO serves as a director or other firms to which their CEO has some level of influence (Westphal & Stern, 2006). Under such circumstances, the role of the board in moderating leadership behaviour may be limited. Similarly, powerful CEOs may seek to appoint board members who will be sympathetic to them (Westphal & Zajac, 1995). Perhaps this will make it difficult to query the actions of the management.

7.4 Implications of the Study

The aftermath effects of the global economic meltdown have continued to pose a serious challenge to effective operations of financial institutions. ERM has become a central strategy that is viewed to counter the effect of business risk through a single framework that holistically put risks in proper check. In particular, the risk concern is huge in the financial sector given the quantum of risks that surround the industry. Considering the findings of this research effort this study is of great importance both in terms of practical, theoretical and methodological implications. The implications of this present study are in the following sub-heading:

7.4.1 Practical Implications

Based on the findings of this research work, the study is of benefits to regulators (NAICOM, CBN, NDIC, and SEC), financial institutions, investors, shareholders and other practitioners in understanding how ERM practices effectively influence

firm performance. It has further assessed the challenges and the benefits of ERM practices in financial institutions. Having discussed at length how ERM framework implementation and ERM success factors influence firm performance, the study recommended the need for financial institutions and regulatory agencies to come up with policies and strategies that will effectively improve ERM practices in Nigeria. For example, the regulatory agencies may come up with policies that would expose the management and the board members of various financial institutions to the vagaries of business environment to encourage effective ERM policies.

The study has established empirically the significance of ERM framework implementation on the performance of financial institutions in Nigeria. While the study revealed that a large number of institutions have either fully or partially implemented a sizeable number of firms are at the initial stages of ERM implementation. Having established that ERM framework implementation provides an opportunity for firms to easily spot bottleneck zones and instantly take drastic measures. Again, given the level of a knowledge gap in the industry, firms need to be encouraged to improve the current level of the implementation of ERM frameworks. For, example, the regulatory agencies should intensify effort to ensure full implementation of ERM framework in the industry. As such it is logical to argue that firms should not hesitate to commit resources in ensuring effective ERM framework within their management structure. Also, given the huge cost of economic distress, Lai and Samad (2011) refuted the cost implication of ERM implementation. They indicated that ERM framework implementation significantly reduces the cost of financial distress; lower the cost of external financing, improves the firm's credit rating, reduces informational asymmetries, and reduce agency cost.

Hence firms need to put in strategies that will fill in the knowledge and skills gaps presently affecting the implementation of a proactive risk management strategy such as ERM in order to boost their performance.

Additionally, the study provides empirical evidence on the significance of ERM success factors to firm performance. Compliance with regulatory provisions has been recognized as an important factor to firm performance. Laxity on the part of regulatory agencies may allow some critical risk factors to be overlooked, which will, in turn, affect firm performance. As such, financial institutions can make considerable gain by complying with best business practices. While compliance with the best business practices is important, financial institutions need not to be engrossed by regulatory provisions to the extent that it affects their ability to come up with good business strategies.

Again, the findings suggest that risk culture is a critical success factor that drives firm performance. While ERM framework implementation is critical to effective risk management it is not sufficient condition for effective implementation of risk management. To complement ERM framework risk culture has been recognized as an important element that leads to an effective and efficient ERM strategies that improve firm performance. A firm with positive risk culture is more likely to put in place a robust risk management strategy. Hence, it is recommended that a successful risk culture model needs to be put in place by financial institutions to complement ERM framework for better firm performance. Regulatory agencies need to formulate policies that will instill positive risk culture in the Nigerian financial industry.

Further, the study has established that risk management information system and risk knowledge sharing are important success factors that influence firm performance. It means for the financial institutions to efficiently manage risk, financial institutions require a well-functioning database. Hence, an effective management information system is required to enable them analyze the frequency and severity of risk exposures. Again, financial institutions must recognize the importance of risk management information to effectively analyze risk and shield the firm against uncertainties. To achieve better firm performance, financial institutions should be encouraged to put in place a robust information management system for a comprehensive risk analysis and reporting. In addition, it is recommended that the financial institutions need to put in place an internal risk knowledge sharing as a strategy that will improve staff capabilities to handle complex firms operations.

Similarly, the study provides empirical evidence on the relevance of staff competence and leadership role in achieving high firm performance. Staff competence is a critical success factor that drives firm performance. While some regulatory agencies (such as CBN) have recognized the importance of staff competence and developed a competency framework to guide manpower development, other regulators are yet to develop competency framework. The study also recommended that other regulatory agencies within the industry should also develop a competency framework to bridge the knowledge gap that exists within the Nigerian financial industry. Likewise in addition to staff competence, financial institutions should strengthen the leadership role of the CRO by making it independent and answerable to the board of directors. Making the CRO independent

may improve the leadership role of the ERM department. This will further enhance the efficiency of the CRO to handle complex risk management issues.

Conclusively, the study identifies ERM framework and ERM success factors (compliance, risk culture, risk management information, risk knowledge sharing, staff competence and leadership role) as critical to improving firm performance. Hence, considering these variables together may lead to an efficient risk management strategy capable of improving firm performance.

7.4.2 Theoretical Implications

This research work provides empirical evidence for the hypothesized theoretical relationships in the research framework. The study assessed the influence of ERM framework implementation and ERM success factors on the performance of financial institutions in Nigeria. Further, the study established the moderating effect of BEO on the relationship between ERM framework implementation, ERM success factors and the performance of financial institutions in Nigeria. Considering the fact that ERM is a multidisciplinary oriented field, the study demonstrated the link between MPT, RBV, and AT. The combination of these theories have added to the literature by specifically assessing the ERM variables as determinants of firm performance. For example, MPT is one of the foundational theories from which ERM evolved (Alviniussen & Jankensgard, 2009). MPT provides mechanisms that allow investors to select a collection of investment assets that collectively have lower risk than individual assets. The study has extended the theoretical assumptions of MPT to provide an avenue for thinking about organizational risks in terms of portfolio and the contribution of each type of risk to the portfolio. The belief is that ERM implementation tend to be more cost efficient.

As such, the findings of this study is in tandem with the assumptions of MPT. It is clear that those firms that implemented ERM view and manage risk in the form of a portfolio. The study contributed to the literature by integrating the MPT theory (Woon, Azizan, & Samad, 2011), ERM success factors (RBV) and the BEO (Agency theory) to explain the performance of financial institutions in Nigeria. Specifically, the study contributed to the literature stream with the understanding of how some important success factors (risk culture, risk management information system, risk knowledge sharing) influence firm performance.

In addition, several studies have used CRO as an indicator of ERM implementation. Using CRO announcement has not been rigorous in establishing the hypothesized benefits of ERM. Acharyya, (2008) contended that the empirical contribution of ERM has remained untested because of the lack of suitable frameworks leading to inconclusive results. This study has contributed to the literature by using a survey technique to empirically examine the enterprise risk management practices that signify ERM implementation in the financial industry.

Additionally, this study has contributed to the literature by empirically examining the influence of ERM in the context of the financial sector in Nigeria. Before now most of the studies on ERM in Nigeria are conceptual in nature proposing the need for firms to implement ERM, very few empirical studies were reported on ERM in Nigeria (Fadun, 2013a).

Likewise, this present study contributed to the ERM literature by reducing the mixed results reported by previous studies (Abdullah *et al.*, 2012; Bertinetti *et al.*, 2013; Togok *et al.*, 2014). This study has empirically tested and established the moderating effect of BEO on the relationship between ERM framework implementation, ERM success factors, and firm performance. The study established a significant interaction effect on the relationship between ERM framework, ERM success factors (compliance, risk management information, risk knowledge sharing) and firm performance. Hence, the study recommended the need for regulatory agencies to encourage board equity ownership but with a caveat to prevent interest entrenchment that may lead to abuse. Thus, this study provides theoretical support to the ERM literature stream on the moderating power of BEO in strengthening the efficiency of enterprise risk management and firm performance relationship

Again, combining quantitative and qualitative data in a single study through an embedded research design had provided the opportunity to investigate the various aspects of ERM practices comprising benefits and challenges. The embedded triangulation enriched the findings in a manner that relying on a single research design alone would not have been possible.

Finally, the review of previous literature on ERM indicated that majority of the studies were conducted in developed economies such as USA, Europe, and Asia, thereby ignoring African countries, like Nigeria (Fadun, 2013a; Togok *et al.*, 2014). Thus, by carrying out this study in Nigeria, it has further improved the perception of how ERM improves the performance of financial institutions in an emerging economy like Nigeria and other economies of similar characteristics.

7.4.3 Methodological Implications

In addition to the practical and theoretical gap, this study provides some form of methodological contributions. This study used method triangulation as a complementary to study ERM implementation in financial institutions from multiple perspectives (survey and interview). Majority of studies in ERM used either secondary data (Beasley *et al.*, 2005; Desender, Aguilera, Crespi, Spain, & Lamy, 2011; Hoyt *et al.*, 2008; Lin *et al.*, 2012a; Pagach & Warr, 2011; Quon *et al.*, 2012, among others) or survey (Daud, Yazid, & Hussin, 2010; Fraser, Schoening-Thiessen, & Simkins, 2008; Gates, Nicolas, & Walker, 2012; Yazid, Hussin, & Daud, 2011, among others). Few studies used triangulation (Kleffner *et al.*, 2003b; Lai, 2012; Manab *et al.*, 2010). The strength of embedded triangulation had enabled the present study to further identify some benefits and challenges of ERM framework implementation, which might not have been uncovered if either of the methods was utilized. For example, the findings from the interview have discovered risk-aware culture and knowledge gap as among the most fundamental challenges of ERM implementation in the Nigerian financial sector. Hence, financial institutions and regulatory agencies need to put in place effective knowledge management strategies that will enhance staff competence and raise risk awareness within the industry.

Secondly, the study covers both financial and non-financial performance of financial institutions in Nigeria. To have a more parsimonious model the study treated firm performance as a second order construct comprising both financial and nonfinancial performance indicators. Apparently, most of the studies on ERM focused mainly on financial performance. Studies focusing on both financial and nonfinancial performance are rare (Asat *et al.*, 2015; Gates *et al.*, 2012). As such,

this study has provided more information on how ERM framework implementation and ERM success factors influence both financial and the non-financial performance, clearly identifying the intangible benefits associated with ERM implementation.

Finally, another methodological contribution of this study relates to the use of PLS path modeling with the aid of Smart-PLS 2.0 to examine the psychometric power of each construct as indicated in the research framework. The Smart-PLS 2.0 M3 is a statistical analytical tool that is capable of simultaneous examination of relationships among variables (Ringle *et al.*, 2005). Therefore, this study has utilized one of the most robust technique to examine the structural relationships between the study variables, which may serve as a guide to future studies.

7.5 Limitation and Suggestions for Future Research

Despite the numerous contributions of this study, the study has some limitations. Firstly, this study covers only the Nigerian financial sector where a series of reports confirmed weak risk management practices. Hence, future studies may empirically examine the ERM practices of other sectors of Nigerian economy (e.g. constructions, manufacturing etc.). Secondly, this study was conducted after the global economic meltdown period. Other studies may examine the periods prior to the crisis to have a longer period assessment of the risk management practices of the financial institution in Nigeria.

Thirdly, another limitation of this study relates to the issues of self-reported measures which may lead to common method variance problems (Podsakoff *et al.*, 2003). Even though the result of Harman's single factor technique revealed that CMV does not exist, future studies may collect data from both regulatory agencies in

addition to the financial institutions to mitigate the problems of self-reported measures.

Fourthly, this study utilized a cross-sectional survey in which responses were taken at a single point in time. Therefore, the cross-sectional design may not enable researchers to prove causal relationships between the study variables (Sekaran & Bougie, 2010). Since the data for this research was collected at one point in the term it might not reveal a long time behaviors or relationship among the study variables. Future studies may consider using a longitudinal design for a better understanding of the development of risk management practices in the Nigerian financial sector.

Fifthly, another possible weakness of this current study could be traced to the fact that the study examines only the relationship between ERM framework implementation, ERM success factors, and firm performance. This current study has not examined the level of maturity of the risk management practices in the Nigerian financial industry. Future studies might look at the possibility of using a capability maturity scale to gauge the level of ERM practices in the Nigerian financial industry.

Finally, the study has not been able to establish the relationship between innovativeness and firm performance. However, the study adapted measures from Lin, Peng and Kao (2008) as unidimensional constructs. Future studies may consider innovativeness as multi-dimensional constructs, perhaps some evidence of positive relationship could be established. Similarly, the study was unable to establish the moderating effect of BEO on the relationship between risk culture, staff competence,

innovativeness, leadership role and firm performance. Future researchers may further examine the psychometric power of BEO in different environmental settings.



REFERENCES

- Abd Razak, N., Ab Rahman, Z., & Borhan, H. (2016). Modeling firm resources – enterprise risk management relationships: An empirical finding using PLS-SEM. *World Journal of Entrepreneurship, Management and Sustainable Development*, 12(1), 35–49.
- Abdullah, M. A. N., Zakuan, N., Khayon, M., Ariff, M. S. M., Bazin, N. E. N., & Saman, M. Z. M. (2012). Adoption of enterprise risk management practices in organization: A Review. *International Journal of Business and Information Technology*, 2(1), 1–9.
- Abiola, J. O., & Ojo, S. O. (2012). Compliance with regulatory financial reporting and corporate governance practices in selected primary mortgage institutions in Nigeria. *International Journal of Business and Social Science*, 3(15), 246–254.
- Acharyya, M. (2008). In measuring the benefits of enterprise risk management in insurance: An integration of economic value added and balanced score card approaches. *Society of Actuaries*, 1–25.
- ACI Worldwide. (2014). *Taking risk management from the silo across the enterprise* (Report No. ATL5537 10-14). ACI worldwide Universal Paments Company. Retrieved from www.aciworldwide.com
- Acuna, E., & Rodriguez, C. (2004). The treatment of missing values and its effect on classifier accuracy. In B. David, R. Frederick, & W. Gaul (Eds.), *Studies in Classification, Data Analysis, and Knowledge Organisation* (pp. 639–648). Berlin Heidelberg: Springer-Verlag.
- Adeusi, S. O., Akeke, N. A., Obawale, S., Oladunjoye, O., Oluwafemi, D. S., Israel, N. A., ... Olawale, O. (2013). Risk management and financial performance of banks in Nigeria. *Journal of Business and Management*, 14(6), 52–56.
- Adomi, E. E., Ayo, B. T., & Nakpodia, E. D. (2007). A better response rate for questionnaires: Attitudes of librarians in Nigerian University Libraries. *Library Philosophy and Practice*, 9(2), 50.
- Aduloju, S. A., Awoponle, A. L., & Oke, S. A. (2008). Recapitalization, mergers, and acquisitions of the Nigerian insurance industry. *The Journal of Risk Finance*, 9(5), 449–466.
- Agarwal, S., Erramilli, M. K., & Dev, C. S. (2003). Market orientation and performance in service firms: Role of innovation. *Journal of Services*

Marketing, 17(1), 68–82.

- Agu, C. C. (2011). *Understanding the ABC of the financial system*. Retrieved from www.unn.edu.ng/wp-content/uploads/2015/09/42nd-Lecture.pdf
- AIG. (2014). *Financial institution risk management issues (White paper)*. Retrieved from www.aig.com/.../financial-institution-risk-management-issues-2014-01-13-brochure.pdf
- Akinkoye, E. Y., & Olanmi, O. O. (2014). Corporate governance practice and level of compliance among firms in Nigeria: Industry analysis. *Journal of Business and Retail Management Research*, 9(1), 13–26.
- Aksoy, M., Apak, S., Eren, E., & Korkmaz, M. (2014). Analysis of the effect of organisational learning based on organisational culture on performance, job satisfaction and efficiency: A field study of banking sector. *International Journal of Academic Research*, 6(1), 301–313.
- Al-gharaibeh, S. M. A., & Malkawi, N. M. (2013). The impact of management information systems on the performance of governmental organizations- Study at Jordanian ministry of planning. *International Journal of Business and Social Science*, 4(17), 101–109.
- Al-Swidi, A. K. (2012). *The moderating effect of organisational culture on the relationship between total quality management, entrepreneurial orientation and the performance of banks in Yemen*. Universiti Utara Malaysia.
- Albring, S., Robinson, D., & Robinson, S. M. (2013). Audit committee financial expertise, corporate governance, and the voluntary switch from auditor-provided to non-auditor provided tax services. *Advances in Accounting*, 1–14.
- Allan, N., & Beer, L. (2006). *Strategic risk: It's all in your head* (No. 2006.01). *School of Management* (Vol. 276).
- Alreck, P. L., & Settle, R. B. (1995). *The survey research handbook: Guidelines and strategies for conducting a survey* (2nd ed.). New York, NY: McGraw Hill.
- Alsop, R. (2004). Corporate scandals hit home; reputations of big companies tumble in consumer survey; 'money can rob the goodness. *Wall Street Journal*, P. B1.
- Altaany, F. H. (2013). Impact of management information systems to improve performance in municipalities in north of Jordan. *Interdisciplinary Journal of Contemporary Research in Business*, 5(6), 429–446.
- Altuntas, M., Berry-Stolzle, T. R., & Hoyt, R. E. (2011). Dynamic determinants of

- enterprise risk management adoption in the property-liability insurance industry: evidence from Germany. *Journal of Risk Management*, 123(17), 1234–1244.
- Alves, C., & Mendes, V. (2001). *Corporate governance policy and company performance: The case of Portugal. Working Papers.*
- Alviniussen, A., & Jankensgard, H. (2009). Enterprise risk budgeting: Bringing risk management into the financial planning process. *Journal of Applied Finance*, 19(1/2), 178–192.
- Amedu, S. (2010). Global financial market meltdown and the Nigerian Stock market crash of 2008: Any lessons for market players and regulators? *Nigerian Journal of Securities and Finance*, 15(1), 99–125.
- Amenta, E., & Ramsey, K. M. (2010). Institutional theory. *Handbook of Politics*, 15–39.
- Ammann, M., Oesch, D., & Schmid, M. M. (2011). Corporate governance and firm value: International evidence. *Journal of Empirical Finance*, 18(1), 36–55.
- Anthropopoulou, A. (2005). Knowledge sharing: A critical success factor for risk management. In *In Proceedings of 6th European Conference on Knowledge Management* (pp. 26–33). UK: Academic Conferences Limited.
- Antonopoulos, N., & Gillam, L. (2010). *Cloud computing: Principles, systems and applications*. Springer Science & Business Media. Retrieved from <http://arxiv.org/abs/0912.1905>
- Antony, J. P., & Bhattacharyya, S. (2010). Measuring organizational performance and organizational excellence of SMEs Part 2: an empirical study on SMEs in India. *Measuring Business Excellence*, 14(3), 42–52.
- Archer, D. (2002). Creating a risk management framework. *CMA Management*, 76(1), 16–19.
- Arena, M., Arnaboldi, M., & Azzone, G. (2010). The organizational dynamics of Enterprise Risk Management. *Accounting, Organizations and Society*, 35(7), 659–675.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating non-response bias in mail surveys. *Journal of Marketing Research*, 14(3), 396–402.
- Arnold, V., Benford, T., Canada, J., & Sutton, S. G. (2011). *Enhancing strategic flexibility and performance through enterprise risk management: The enabling*

- role of information technology*. Retrieved from www.raw.rutgers.edu/docs
- Arnold, V., Benford, T. S., Hampton, C., & Sutton, S. G. (2014). Enterprise risk management: Re-Conceptualizing the role of risk and trust on information sharing in transnational alliances. *Journal of Information Systems*, 28(2), 257–285.
- Arthur, M. G. (1994). *Integrated compliance and total risk management: Creating a bankwide compliance program that works*. Chicago: Probus Publishing Company.
- Asat, S. H., Maruhun, E. N. S., Haron, H., & Jaafar, M. (2015). Enterprise risk management (ERM) and organisational performance: The case of housing developers in Malaysia. In *MARIM International Conference, Langkawi*.
- Asher, A., & Wilcox, T. (2015). Virtue and risk culture in finance. In *The Actuaries Institute 2015 ASTIN, AFIR/ERM and IACA Colloquia* (Vol. 61).
- Augustine, I. E., Ajayi, J. R., Ade, B. A., & Adakole, A. (2013). Assessment of risk management practices in Nigerian construction industry: Toward establishing risk management index. *International Journal of Pure and Applied Sciences and Technology*, 16(2), 20–31.
- Aven, T. (2011). On the new ISO guide on risk management terminology. *Reliability Engineering and System Safety*, 96(7), 719–726.
- Awoyemi, O. (2010). Repositioning corporate Nigeria: lessons in corporate reputation management. In *Nigerian Institute of International Affairs*.
- Aziz, R. A., Abdullah, M. H., Anas, T., & Mahmood, R. (2013). The effects of leadership styles on the business performance of SMEs in Malaysia. *International Journal of Economics, Business and Management Studies*, 2(2), 45–52.
- Ballantyne, R. (2013). *An empirical investigation into the association between enterprise risk management and firm financial performance*. Lawrence Technological University.
- Baney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Baney, J., Wright, M., David, J., & Ketchen, J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625–641.
- Bank for International Settlement. (2011). *Principles for the sound management of*

- operational risk (Basel Committee on banking supervision)*. Retrieved from www.bis.org
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, 47(8), 1323–1339.
- Barlet, C. E., Duguet, D. E., & Pradel, J. (2000). The Commercial Success of Innovations: An Econometric Analysis at the Firm Level in French Manufacturing. In D. Encaoua (Ed.), *The Economics and Econometrics of Innovation* (pp. 435–456). Boston: Kluwer Academic Publishers.
- Barnabei, M. (2008). *Risk management psychology and practice. Master of Science in Organizational Dynamics*. University Pennsylvania.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bartesaghi, M., Grey, S. H., & Gibson, S. (2012). Defining (the Concept of) Risk. *Poroi*, 8(1), 6.
- Bartlett, J. E., Kotrlik, J. W. K. J. W., & Higgins, C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43.
- Baxter, P., & Susan, J. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report Volume*, 13(4), 544–559.
- Baxter, R., Bedard, J. C., Hoitash, R., & Yezegel, A. (2013). Enterprise risk management program quality: determinants, value relevance, and the financial crisis. *Contemporary Accounting Research*, 30(4), 1264–1295.
- BaxterBruce Ltd. (2013). *Enterprise risk management: The challenges and benefits of implementing ERM (industry report)* (Vol. 44). Retrieved from www.baxterbruce.com
- Bayer, F., & Maier, R. (2007). Governing knowledge risks design and results of an empirical study. *Organization Science*, (September), 200–208.
- Beasley, B. M. S., Branson, B. C., & Hancock, B. V. (2010a). Are you identifying your most significant risks? *Strategic Finance*, (November), 29–35.

- Beasley, M., Branson, B., & Pagach, D. (2015). An Analysis of the maturity and strategic impact of investments in ERM. *Journal of Accounting and Public Policy*. Retrieved from <http://dx.doi.org/10.1016/j.jaccpubpol.2015.01.001>
- Beasley, M., Pagach, D., & Warr, R. (2008). Information conveyed in hiring announcements of senior executives overseeing enterprise-wide risk management processes. *Journal of Accounting, Auditing & Finance*, 23(3), 311–332.
- Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, 71(4), 443–465.
- Beasley, M. S., Branson, B. C., & Hancock, B. V. (2010b). How key risk indicators can sharpen focus on emerging risks. In L. F. Mark & J. A. Richard (Eds.), *Practical Approaches for Getting Started*.
- Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting and Public Policy*, 24(6), 521–531.
- Beck, U. (1992). *Risk Society: Towards a new modernity*. London.
- Bekefi, T., Epstein, M. J., & Yuthas, K. (2008). *Managing opportunities and risks* (Report No. -55302-212-2). Retrieved from <http://www.cimaglobal.com>
- Beltratti, A., & Stulz, R. (2009). *Why do bank perform better during the credit crisis? A cross country study of the impact of governance and regulation*.
- Beneda, N. (2005). Managing an asset management firm's risk portfolio. *Journal of Asset Management*, 5, 327–337.
- Berenbeim, R. (2004). The value based enterprise: A new corporate citizenship paradigm. In *The Asia Foundation's Hong Kong Symposium on Corporate Citizenship and the Taipei Corporate Citizenship Forum October* (pp. 27–29). Hong Kong.
- Bertinetti, G. S., Cavezzali, E., & Gardenal, G. (2013). *The effect of the enterprise risk management implementation on the firm value of European companies* (No. 10/2013).
- Bhabra, G. S., Ferris, S. P., Sen, N., & Yen, P. P. (2003). Corporate governance in Singapore: The impact of directors' equity ownership. *Advances in Financial Economics*, 8, 29–46.

- Bhabra, G. S., Ferris, S. P., Sen, N., & Yen, P. P. (2015). Corporate governance in Singapore: The impact of directors' equity ownership. *Advances in Financial Economics*, 8(1), 29–46.
- Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance*, 14(3), 257–273.
- Bharathy, G. K., & Mcshane, M. K. (2014). Applying a systems model to enterprise risk management. *Engineering Management Journal*, 26(4), 38–46.
- Bhatti, M. A., & Sundram, V. P. K. (2015). *Business research: Quantitative and qualitative methods*. Kuala Lumpur, Malaysia: Pearson Malaysia.
- Bhimani, A. (2009). Risk management, corporate governance and management accounting: Emerging interdependencies. *Management Accounting Research*, 20(1), 2–5.
- Blaauw, A. (2009, November 8). From enterprise risk management to governance risk and compliance. *Vanguard*. Retrieved from <http://www.vanguardngr.com/2009/11>
- Blach, J. (2010). Financial risk identification based on the balance sheet information. *Managing and Modelling of Financial Risks*, 8(9), 1–10.
- Black Sea Trade & Development Bank. (n.d.). *Operational risk management policy (Report No. 4457)*. Retrieved from <https://www.nib.int/filebank>
- Blaskovich, J., & Taylor, E. Z. (2011). By the numbers: Individual bias and enterprise risk management. *Institute of Behavioral and Applied Management*, 13(c), 5–24.
- Boniface, U., & Ibe, I. G. (2012). Enterprise risk management and performance of Nigeria's brewery industry. *Developing Country Studies*, 2(10), 60–67.
- Booth, J. R., Cornett, M. M., & Tehranian, H. (2002). Boards of directors, ownership, and regulation. *Journal of Banking & Finance*, 26(10), 1973–1996.
- Bostanci, O. (2013). *Presentation of a risk culture framework and assessment of risk culture at Garanti Bank, Turkey*.
- Bouwens, J., & Verriest, A. (2014). *Putting skin in the game : managerial ownership and bank risk-taking* (No. 14–070). *Harvard Business Review*.
- Boyatzis, R. E. (2008). Competencies in the 21st century. *Journal of Management Development*, 27(1), 5–12.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology Using

- thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 37–41.
- Bris, A. (2010). *The lehman brothers case: A corporate governance failure, not a failure of financial markets (IMD Report)*. Retrieved from www.imd.ch
- Brown, R. B. (2006). *Doing your dissertation in business and management: The reality of researching and writing*. London: Sage Publications Limited.
- Bruno, L. F. C., & De-Sousa, J. O. P. (2009). *Organisational cultuture: How to measure it- a case study*. E-Leader Tallinn.
- Bryman, A. (2004). Quantity and quality in social research. In M. Bulmer (Ed.), *Social Research Today and Contemporary Social Research* (Vol. 18, pp. 1–208). New York: Taylor & Francis e-Library.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Caldwell, J. E. (2012). *A framework for board oversight of enterprise risk*. Canada: Canada Institute of Chartered Accountants.
- Cameron, K. ., & Quinn, R. . (2011). *Diagnosing and changing organisational culture based on the competing Values framework, 3rd edition*. San Francisco, CA: John Wiley and Sons.
- Campbell, K. a. (2015). Can effective risk management signal virtue-based leadership? *Journal of Business Ethics*, 129, 115–130.
- Carey, A. (2001). Effective risk management in financial institutions: the Turnbull approach. *Balance Sheet*, 9(3), 24–27.
- Carol Liu, M. H., Tiras, S. L., & Zhuang, Z. (2014). Audit committee accounting expertise, expectations management, and non-negative earning surprises. *Journal of Accountancy and Public Policy*, 33(2), 145–166.
- Carroll, R., Hoppes, M., Hagg-Rickert, S., Youngberg, B. J., McCarthy, B. A., Shope, D., ... Driver, J. (2014). *Enterprise risk management: A framework for success*.
- Casimir, G., Lee, K., & Loon, M. (2012). Knowledge sharing: Influences of trust, commitment and cost. *Journal of Knowledge Management*, 16(5), 740–753.
- Casualty Acturial Society. (2003). *Overview of enterprise risk management*. Ontario Canada.
- CBN. (2006). *Code of corporate governance*. Abuja Nigeria. Retrieved from www.cbn.gov.ng/OUT/PUBLICATIONS/BS/2003/CORPGOV.PDF

- CBN. (2008a). *Banking supervision annual report*. CBN. Abuja, Nigeria.
- CBN. (2008b). *Supervisory framework for banks and other financial institutions*. Retrieved from http://www.cbn.gov.ng/out/2010/circular/BSD/CBN_RBS_Framework-KIM_final_12_2010.PDF
- CBN. (2010). *Financial stability report*. Abuja Nigeria. Retrieved from <https://www.cbn.gov.ng>
- CBN. (2012). *Competency framework for the Nigerian banking industry*. Abuja Nigeria. Retrieved from https://www.cbn.gov.ng/out/2012/ccd/competency_framework.pdf
- CBN. (2014a). *Code of corporate governance for banks and discount houses in Nigeria*. CBN. Retrieved from <https://www.cbn.gov.ng>
- CBN. (2014b). *Revised guidelines for finance companies*. Retrieved from <https://www.cbn.gov.ng>
- CBN. (2014c). *The list of financial institutions*. Abuja Nigeria. Retrieved from www.cenbank.org/supervision
- Chaffey, D., & Wood, S. (2005). *Business information management: Improving performance using information systems*. Pearson Education Limited, Essex.
- Chan, L. L. M., Shaffer, M. A., & Snape, E. (2004). In search of sustained competitive advantage: the impact of organizational culture, competitive strategy and human resource management practices on firm performance. *International Journal of Human Resource Management*, 15(1), 17–35.
- Che-Ha, N., Mavondo, F. T., & Mohd-Said, S. (2014). Performance or learning goal orientation: Implications for business performance. *Journal of Business Research*, 67, 2811–2820.
- Chee, C. I. (2011). *Risk management*. Kuala Lumpur, Malaysia: Pearson Education Limited.
- Chich-Jen, S., & Wang, I.-M. (2010). A study of the relationships between corporate core competence, management innovation and corporate culture. *International Journal of Organizational Innovation*, 2(3), 395–411.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295–336). Mahwah, New Jersey: Laurence Erlbaum Associates.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent

- variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189–217.
- Choi, Y., Ye, X., Zhao, L., & Luo, A. C. (2015). Optimizing enterprise risk management: a literature review and critical analysis of the work of Wu and Olson. *Annals of Operations Research*, 1–7.
- Choo, B. S., & Goh, J. C. (2014). Adapting the ISO31000 : 2009 enterprise risk management framework using the six sigma approach. In *Proceedings of the 2014 IEEE* (pp. 39–43).
- Chow, C. W., & Van Der Stede, W. a. (2006). The use and usefulness of nonfinancial performance measures. *Management Accounting Quarterly*, 7(3), 1–9.
- Ciociu, C. N., & Dobrea, R. C. (2010). *The role of standardization in improving the effectiveness of integrated risk management*. (Giancarlo Nota, Ed.). Intech Open Access Publishers.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). London: Lawrence Erlbaum Associates Publisher.
- Cohen, J. R., Holder-Webb, L. L., Nath, L., & Wood, D. (2012). Corporate reporting of nonfinancial leading indicators of economic performance and sustainability. *Accounting Horizons*, 26(1), 65–90.
- Collier, P. M., Berry, A. J., & Burke, G. T. (2006). Best practice guidelines for enterprise-wide internal control procedures. *Risk and Management Accounting*, 2(11), 1–8.
- Cooper, T., Speh, C., & Downey, A. (2012). *Creating a Culture of Risk Management*. ARC Logics.
- Coram, P. J., Mock, T. J., & Monroe, G. S. (2011). Financial analysts' evaluation of enhanced disclosure of non-financial performance indicators. *British Accounting Review*, 43(2), 87–101.
- COSO. (2004). *Enterprise risk management: Integrated framework executive summary* (Vol. 3).
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. London: Sage Publications Inc.
- Creswell, J. W. (2014). *Research Design*. New Delhi: Sage Publications Inc.

- Creswell, J. W., & Clark, V. L. P. (2007). *Designing and conducting mixed methods research*. California: Sage Publications.
- Crook, T. R., Ketchen, J. D., Combs, J. G., & Todd, S. Y. (2008). Strategic resources and performance: A meta analysis. *Strategic Management Journal*, 29, 1141–1154.
- Cumming, C. M., & Hirtle, B. J. (2001). The challenges of risk management in diversified financial companies. *FRBNY Economic Policy Review*, (November), 1–17.
- D'Arcy, S. P. (2001). Enterprise risk management. *Journal of Risk Management of Korea*, 12(1), 207–228.
- Dabari, I. J., & Saidin, S. (2015). Current state of enterprise risk management practices in the Nigerian banking industry. *IOSR Journal of Business and Management*, 17(6), 27–33.
- Dafikpaku, E. (2011). The strategic implications of enterprise risk management : A framework. In *Enterprise Risk Management Symposium* (pp. 1–49). Society of Actuaries. Retrieved from www.ermsymposium.org/2011/pdf/Dafikpaku.pdf
- Daft, R. L. (2010). *Organization theory and design: Tenth edition*. Mason, Ohio: South-Western Cengage Learning.
- Daily Independent Nigeria. (2014, October 29). Insurers urged to implement enterprise risk management. *Daily Independent Nigeria*. Abuja Nigeria. Retrieved from <http://dailyindependentnig.com/2014/10/insurers-urged-implement-enterprise-risk-management/>
- Dalgles, F., & Cooper, B. J. (2005). Risk management: Developing a framework for a water authority, management of environmental quality. *An International Journal*, 16(3), 235–249.
- Dali, A., & Lajtha, C. (2012). ISO 31000 risk management: The gold standard. *Edpacs*, 45(5), 1–8.
- Damanpour, F., & Evan, W. M. (1990). The adoption of innovations over time: structural characteristics and performance of organizations. In *National Decision Science Institute Conference, San Diego, 1990*. San Diego.
- Damapour, F. (1996). Organizational complexity and innovation: Developing and testing multiple contingency models. *Management Science*, 42(5), 693–715.
- DataStar. (2013). *How to interpret standard deviation and standard error in survey*

- research. Retrieved from www.surveystar.com/startips/jan2013.pdf
- Daud, N. W., Yazid, A. S., & Hussin, M. H. R. (2010). The effect of chief risk officer (CRO) on enterprise risk management (ERM) practices: Evidence from Malaysia. *International Business & Economics*, 9(11), 55–64.
- Daud, W. N., Haron, H., & Ibrahim, N. D. (2011). The role of quality board of directors in enterprise risk management (ERM) practices: Evidence from binary logistic regression. *International Journal of Business and Management*, 6(12), 205–211.
- Davidson, G. M. (2003). *The relationship between organisational culture and financial performance in a South African Investment Bank*. University of South Africa.
- Dawes, J. (2008). Do data characteristics change according to the number of scale points used? An experiment using 5 point, 7 point and 10 point scales. *International Journal of Market Research*, 50(1), 61–18.
- Dawson, C. (2007). *Practical research methods: A user-friendly guide to mastering research techniques and projects* (3rd ed.). Oxford: How To Books Ltd.
- De Caluwé, C., & Dooren, W. Van. (2013). Do organisations matter? A multilevel analysis explaining perceptions of organizational performance. *Paper Presented at the 11th Public Management Research Conference*. Madison, Wisconsin.
- de Villiers, C., Naiker, V., van Staden, C. J., De-Villiers, C., Naiker, V., & Staden, C. J. J. (2011). The effect of board characteristics on firm environmental performance. *Journal of Management*, 37(6), 1636–1663.
- DeLoach, J., & Thomson, J. (2014). *Improving organisational performance and governance: How the COSO frameworks can help?* COSO.
- Deloitte. (2012). *Cultivating a risk intelligent culture: Understand , measure , strengthen , and report*. Retrieved from www.deloitte.com/us/about
- Deloitte. (2013). *Exploring strategic risk*. Retrieved from <https://www2.deloitte.com/content>
- Deloitte. (2014). *Deloitte insurance risk management survey: State of the industry* (Vol. 2). Retrieved from <https://www.thelibrarybook.net/pdf>
- Demaki, G. O. (2011). Proliferation of codes of corporate governance in Nigeria and economic development. *Business and Management Review*, 1(6), 1 – 7.
- Demsetz, H., & Lehn, K. (1985). The Structure of corporate ownership: Causes and

- consequences. *Journal of Political Economy*, 93(6), 1155–1177.
- Desender, K. A. (2011). On the determinants of enterprise risk management implementation. In S. S. Nan & S. Gilbert (Eds.), *Enterprise IT governance, business value and performance measurement* (pp. 1–25). IGI Global. Retrieved from papers.ssrn.com/sol3/papers.cfm?abstract_id=1025982
- Desender, K., Aguilera, R. V., Crespi, R., Spain, C. C. V. K., & Lamy, M. L. P. (2011). *Foreign ownership and corporate governance patterns: The board-auditor relationship in Japan*. Retrieved from <https://aquila.iseg.utl.pt/aquila/getFile>
- Deutsch, Y., Keil, T., & Laamanen, T. (2010). A dual agency view of board compensation: The joint effects of outside director and CEO stock options on firm risk. *Strategic Management Journal*, 32(2), 212–227.
- Dickinson, G. (2001). Enterprise risk management: Its origins and conceptual foundation. *The Geneva Papers on Risk and Insurance*, 26(3), 360–366.
- Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method, second ed.* (2nd ed.). New York: John Wiley & Sons, Inc.
- Dionne, G. (2013). Risk management: history, definition, and critique. *Risk Management & Insurance Review*, 16(2), 147–166.
- Doherty, N. A. (2000). *Integrated risk management: Techniques and strategies for managing corporate risk*. New York San Francisco Washington, DC: McGRAW HILL, INC.
- Dooley, R. S., & Fryxell, G. E. (1999). Attaining decision quality and commitment from dissent: The moderating effects of loyalty and competence in strategic decision-making teams. *Academy of Management Journal*, 42(4), 389–402.
- Doran, J., & Ryan, G. (2012). Regulation and firm perception, eco-innovation and firm performance. *European Journal of Innovation Management*, 15(4), 421–441.
- Drew, M. (2007). Information risk management and compliance: Expect the unexpected. *BT Technology Journal*, 25(1), 19–29.
- Drucker, P. (1999). *Innovation and Entrepreneurship: Practice and Principles*. B & H Oxford.
- Duarte, P., & Raposo, M. (2010). A PLS model to study brand preference: An application to the mobile phone market. In V. Esposito Vinzi, W. W. Chin, J.

- Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 449–485). Springer Berlin Heidelberg.
- Ehtesham, U. M., Muhammad, T. M., & Muhammad, S. A. (2011). Relationship between organizational culture and performance management practices : A case of university in Pakistan. *Journal of Competitiveness*, 1(4), 78–86.
- Eichhorn, B. R. (2014). *Common Method Variance Techniques*. Midwest SAS Users Group. Retrieved from <http://mwsug.org/2014-proceedings.html>
- Eicker, S., Kochbeck, J., & Schuler, P. M. (2008). *Employee competencies for business process management*. Berlin Heidelberg.
- Ekrot, B., Kock, A., & Gemünden, H. G. (2016). Retaining project management competence - Antecedents and consequences. *International Journal of Project Management*, 34(2), 145–157.
- Elton, E. J., & Gruber, M. J. (1997). Modern portfolio theory, 1950 to date. *Journal of Banking and Finance*, 21, 1743–1759.
- Ernst & Young. (2015). *Board oversight of corporate culture*.
- Ernst and Young. (2014). *Shifting focus: Risk culture at the fore front of banking*.
- Esposito Vinzi, V., Trinchera, L., & Amato, S. (2010). PLS path modeling: From foundations to recent developments and open issues for model assessment and improvement. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications* (pp. 47–82). Berlin Heidelberg: Springer.
- Esteve-Pérez, S., & Mañez-Castillejo, J. A. (2008). The resource-based theory of the firm and firm survival. *Small Business Economics*, 30(3), 231–249.
- EY Global Limited. (2014). *Developing effective and sustainable risk cultures in banks*. New York. Retrieved from www.ey.com/Publication/vwLUAssets/EY
- Fadun, O. S. (2013a). Promoting enterprise risk management's adoption in business enterprises: Implications and challenges. *International Journal of Business and Management Invention*, 2(1), 69–78.
- Fadun, O. S. (2013b). Risk management and risk management failure: Lessons for business enterprises. *International Journal of Academic Research in Business & Social Sciences*, 3(2), 225–239.
- Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288–307.

- Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The Journal of Law and Economics*, 26(2), 327.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–91.
- Feinberg, B.-J., Ostroff, C., & Burke, W. W. (2005). The role of within-group agreement in understanding transformational leadership. *Journal of Occupational and Organizational Psychology*, 78(3), 471–488.
- Feridun, M. (2006). Risk management in banks and other financial institutions: Lessons from the crash of long-term capital management (LTCM). *Bank and Bank Systems*, 1(3), 132–141.
- Ferreira, A., & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management Accounting Research*, 20(4), 263–282.
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications Inc.
- Financia Stability Board. (2011). *Financial stability issues in emerging market and developing economies (Report to the G-20 finance ministers and central bank governors)*. Retrieved from www.fsb.org/wp-content/uploads/r_111019.pdf
- Financial Stability Board. (2014). *Guidance on supervisory interaction with financial institutions on risk culture: A framework for assessing risk culture*.
- Fink, A. (2003). *The survey handbook* (Vol. 1). Thousand Oaks, CA: Sage.
- Fisher, C. (2010). *Researching and writing a dissertation: A guidebook for business students* (3rd ed.). England: Pearson Education Limited.
- Fornell, C., & Larcker, D. F. . (1981). Evaluating dysfunctional employee behaviors: A test of structural equation models with unobservable traditional and contingency theory postulates: The variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Francoise, D. L., & Winterton, J. (2005). What is competence? *Human Resource Development International*, 8(1), 27–46.
- Fraser, J. R. S., Schoening-Thiessen, K., & Simkins, B. J. (2008). Who reads what most often? A survey of enterprise risk management literature read by risk executives. *Journal of Applied Finance*, 18(1), 73–91.

- Freund, Y. . (1988). Planner's guide critical success factors. *Planning Review*, 16(4), 20–23.
- Frigo, M. L., & Anderson, R. J. (2011a). *Embracing enterprise risk management: Practical approaches for getting started*. Retrieved from www.coso.org
- Frigo, M. L., & Anderson, R. J. (2011b). What is strategic risk management? *Strategic Finance*, 92(10), 21.
- Gaines, C., Hoover, D., Foxx, W., Matuszek, T., & Morrison, R. (2007). Information systems as a strategic partner in organizational performance. *Journal of Management and Marketing Research*, 1–17.
- Galloway, D., & Funston, R. (2000). The challenges of enterprise risk management. *Balance Sheet*, 8(6), 22–25.
- Gamal, D., Salah, T., & Elrayyes, N. (2011). *How to measure organisational innovativeness? An overview of innovation measurement frameworks and innovation audits/management tools* . Technology Innovation and Entrepreneurship Center, Egypt.
- Garba, T., & Abubakar, B. A. (2014). Corporate board diversity and financial performance of insurance companies in Nigeria. *Asian Economic and Financial Review*, 4(2), 257–277.
- Garciaa-Morales, V., Jimenez-Barrionuevo, M., & Gutierrez-Gutierrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of Business Research*, 65(7), 1040–1050.
- Gaskin, J. (2012). Data screening. Retrieved from <http://statwiki.kolobkreations.com>
- Gates, S., Nicolas, J., & Walker, P. L. (2012). Enterprise risk management: A process for enhanced management and improved performance. *Management Accounting Quarterly*, 13(3), 28–38.
- Gatzert, N., & Martin, M. (2013). *Determinants and value of enterprise risk management: Empirical evidence from the literature* (No. November 23, 2013). *Department for Insurance Economics and Risk Management*. Friedrich-Alexander-University (FAU) of Erlangen-Nürnberg.
- Gavrea, C., Ilieș, L., & Stegorean, R. (2011). Determinants of organizational performance: The case of Romania. *Management & Marketing Challenges for the Knowledge Society*, 6(2), 285–300.

- Gedajlovic, E. R., & Shapiro, D. M. (1998). Management and ownership effects: Evidence from five countries. *Strategic Management Journal*, 19(6), 533–553.
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61, 101–107.
- Ghazali, Z., & Manab, N. A. (2013). Enterprise risk management and value creation: Initial findings amongst non-financial public listed companies in Malaysian Bourse. *Asian Economic and Financial Review*, 3(7), 913–922.
- Gibson, M. (1997). *Information systems for risk management board of governors of the federal reserve system*. (No. 585).
- Gibson, M. S. (1998). The implications of risk management information systems for the organization of financial firms. *International Finance Discussion Paper*, (632).
- Gjerdrum, D., & Peter, M. (2011). The new international standard on the practice of risk management—A comparison of ISO 31000: 2009 and the COSO ERM framework. *Risk Management*, (31), 8–13.
- Global Audit Information Network [GAIN]. (2009). *2008 ERM benchmarking survey: Executive summary*. The institute of internal auditors, research foundation. Retrieved from www.theiia.org/gain
- Golshan, N. M., Rasid, A. S. Z., & Zaleha, S. (2012). What leads firms to enterprise risk management adoption? A literature review. In *International Conference on Economics, Business and Marketing Management* (Vol. 29, pp. 1–5). Singapore: IACSIT Press.
- Gompers, P., Joy, I., & Andrew, M. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics*, 118, 107–155.
- Gordon, L. a., Loeb, M. P., & Tseng, C.-Y. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting and Public Policy*, 28(4), 301–327.
- Gozman, D., & Currie, W. (2015). Managing governance, risk, and compliance for post-crisis regulatory change: A model of IS capabilities for financial organizations. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 2015–March, 4661–4670.
- Grabowski, M., & Roberts, K. (1999). Risk mitigation in virtual organisations. *Organisational Science*, 10(6), 704–722.

- Greener, S. (2008). *Business research methods*. BookBoon.
- Grossi, D., Royakkers, L., & Dignum, F. (2007). Organizational structure and responsibility : An analysis in a dynamic logic of organized collective agency. *Artificial Intelligence and Law*, 15, 223–249.
- Gupta, P. . (2004). *Insurance and risk management*. New Delhi: Himalaya Publishing House.
- Haenlein, M., & Kaplan, A. M. (2004). A beginner's guide to partial least squares analysis. *Understanding Statistics*, 3(4), 283–297.
- Hafizuddin-Syah, B. A. M., Abdul-Hamid, M., Janor, H., & Yatim, P. (2014). The implementation of enterprise risk management (ERM) and firm performance : Evidence from Malaysian technology firms. In *The 16th Malaysian Finance Association Conference (MFA2014): Financial Systems Re-Generation: MAPS, GAPS and TRAPS*.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. London: SAGE Publications, Incorporated.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139–152.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433.
- Hair Jr, J. F., Black, J. W., Babin, B. J., & Anderson, E. R. (2010). *Multivariate data analysis: A global perspectives* (Seventh Ed.). New Jersey: Pearson Education Limited.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.
- Hakkak, M., & Ghodsi, M. (2015). Development of a sustainable competitive advantage model based on balanced scorecard. *International Journal of Asian Social Science*, 5(5), 298–308.
- Hampton, J. (2006). Risk pro knows value of networking. *Business Insurance*, 40(45).
- Harrington, S., & Niehaus, G. R. (2003). *Risk Management and Insurance*. USA.:

Irwin/McGraw-Hill.

- Hartono, R., & Sheng, M. L. (2015). Knowledge sharing and firm performance: the role of social networking site and innovation capability. *Technology Analysis & Strategic Management*, 7325(December), 1–13.
- Hase, S. (2000). Measuring organisational capability: Beyond competence. *Future Research, Research Futures*, 1–6.
- Hashim, M., Yousaf, A., Jehangir, M., Khan, S., & Hadi, N. (2012). The impact of management information system on the overall performance and efficiency of the workforce of the accountant general (Peshawar): A research base study. *International Journal of Academic Research in Accounting, Finance and Management Scienccees*, 2(2), 167–182.
- Hayduk, L. A., & Littvay, L. (2012). Should researchers use single indicators, best indicators, or multiple indicators in structural equation models? *BMC Medical Research Methodology*, 12(159), 1–17.
- Heene, A., & Sanchez, R. (1996). *Competence-based strategic management*. New York: John Wiley.
- Helm, S., Eggert, A., & Garnefeld, I. (2010). Modeling the impact of corporate reputation on customer satisfaction and loyalty using partial least squares. In V. V. Esposito, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares* (pp. 515–534). Berlin Heidelberg: Springer Berlin Heidelberg.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling: Structural equation modeling. *A Multidisciplinary Journal*, 17(1), 82–109.
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In V. Esposito, W. W. Vinzi, J. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp. 713–735). Berlin Heidelberg: Springer.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *New Challenges to International Marketing Advances in International Marketing*, 20, 277–319.
- Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, 28(2), 565–580.

- Hill, R. A. (2010). *Portfolio theory and investment analysis*. Ventus Publishing APS.
- Hillman, A. J. A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383–396.
- Hillson, B. D. (2005). Innovative risk management. *Risk Doctor Briefing*, (September), 1–1. Retrieved from <http://www.risk-doctor.com/pdf-briefings/risk-doctor17e.pdf>
- HM Treasury. (2004). *The orange book: Management of risk principles and concepts*. London: HM Treasury. London. Retrieved from www.hm-treasury.gov.uk
- Hoddinott, D. (2007). *Developing and maintaining staff competence* (2nd ed.). London: Health and Safety Executive.
- Hoffman, M. (2009). Interest in enterprise risk management is growing. *Business Insurance*, 43(18), 14–16.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Oaks CA: Sage.
- Holton, G. A. (2004). Defining risk. *Financial Analysts Journal*, 60(6), 1–7.
- Hopkins, A. (2011). Risk-management and rule-compliance: Decision-making in hazardous industries. *Safety Science*, 49(2), 110–120.
- Hora, M., & Klassen, R. D. (2013). Learning from others' misfortune: Factors influencing knowledge acquisition to reduce operational risk. *Journal of Operations Management*, 31(1–2), 52–61.
- Horton-Bentley, A. (2006). The new best practice: Unifying banking across lines of business. In *KMworld Best practices in Financial Services*, September.
- Hoskisson, R. E., Castleton, M. W., & Withers, M. C. (2009). Complementarity in monitoring and bonding: More compensation. *Academy of Management Perspectives*, (May), 57–74.
- Hotvedt, J. E., & Tedder, P. L. (1978). Systematic and unsystematic risk of rates of return associated with selected forest products companies. *Southern Journal of Agricultural Economics*, 135–138.
- Hoyt, R. E., & Liebenberg, A. P. (2011). The value of enterprise risk management. *Journal of Risk & Insurance*, 78(4), 795–822.
- Hoyt, R. E., Moore, D. L., & Liebenberg, A. P. (2008). *The value of enterprise risk*

management: Evidence from the US insurance industry.

- Hsu, I. C. (2008). Knowledge sharing practices as a facilitating factor for improving organizational performance through human capital: A preliminary test. *Expert Systems with Applications*, 35(3), 1316–1326.
- Hurley, R. . F., & Hult, G. T. . (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *Journal of Marketing*, 62(3), 42–54.
- Hussin, M. R., Yazid, A. R., & Razali, A. . (2012). Enterprise-wide risk management (EWRM) as a value added tool in enhancing the economic value of business enterprises. *International Business Research*, 5(1), 83–98.
- Hutchison, M. R., & Ngoc, T. B. (2013). Corporate governance and risk management: The role of risk management and compensation committees. *Journal of Contemporary Accounting & Economics*, 9(1), 83–99.
- Hyrsky, K., & Tuunanen, M. (1999). Innovativeness and risk-taking propensity: A cross-cultural study of Finnish and US entrepreneurs and Small business owners. *Business*, 48, 238–256.
- Ibuakah, I. (2012). Key issues & challenges in corporate governance reform in Nigeria. In *International conference HHL Leipzig Graduate School of Management*. Leipzig.
- Idornigie, P. O. (2010). Enhancing corporate value through the Harmonization of corporate value through the Harmonization of corporate codes. In *34th Annual conference of ICSAN*. Abuja Sheraton.
- Iganiga, B. O. (2010). Evaluation of the Nigerian financial sector reforms using behavioral models. *Journal of Economics*, 1(July 2004), 65–75.
- Imamoglu, S. Z., Ince, H., Keskin, H., Karakose, M. A., & Gozokara, E. (2015). The role of leadership styles and organizational learning capability on firm performance. *Journal of Global Strategic Management*, 9(1), 113–124.
- IMF. (2013). *Nigeria : Financial sector stability assessment*.
- Institute of International Finance (IIF). (2008). *Final report of the IIF committee on market best practices: Principles of conduct and best practice recommendations*.
- Institute of International Finance (IIF). (2009). *Risk culture, reform in the financial industry: Strengthening practices for a more stable system*.

- Institute of Risk Management [IRM]. (2012). *Risk culture: Under the microscope guidance for boards* (Vol. 44). Palgrave Macmillan.
- International Finance Corporation. (2012). *Risk taking: A corporate governance perspective*. Washington DC.
- International Standard Organisation [ISO]. (2009). ISO31000:2009 Risk management- Principles and guidelines. Retrieved from http://www.iso.org/iso/catalogue_detail?csnumber=43170
- Ismail, R., & Abidin, S. Z. (2010). Impact of workers' competence on their performance in the Malaysian private service sector. *Business and Economic Horizons*, 2, 25–30.
- Jain, K. K., Sandhu, M. S., & Sidhu, G. K. (2007). Knowledge sharing among academic staff: A case study of business schools in Klang. *JASA*, 2(January), 23–29.
- Jayashree, S. (2006). Some Views on Corporate Governance. *Indira Management Review*.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Johannessen, J., Olaisen, J., & Olsen, B. (1999). Strategic use of information technology for increased innovation and performance. *Information Management & Computer Security*, 7(1), 5–22.
- John, A. O., & Ackah, O. (2015). Employee's competency and organizational performance in the pharmaceutical industry: An empirical study of pharmaceutical firms in Ghana. *International Journal of Economics, Commerce and Management*, III(3), 1–9.
- Jonker, J., & Pennink, B. (2010). *The essence of research methodology: A concise guide for master and PhD students in management sciences*. Germany: Springer.
- Judge, W. Q., Naoumova, I., & Koutzevoi, N. (2003). Corporate Governance and Firm Performance in Russia: An empirical study. *Journal of World Business*, 38(4), 385–396.
- Kalita, M. (2004). Enterprise-Wide Risk Management: Myth or Reality? *Business Credit*, 106(3), 22–23.

- Kama, T. (2006). Event studies in economics and finance. *Journal of Economic Literature*, 35(3), 75–86.
- Kamaruddeen, A. M., Yusof, N. A., & Said, I. (2010). Innovation and innovativeness : Difference and antecedent relationship. In *The Management in Construction Researchers Association (MICRA, 2009 Conference) Universiti Sains Malaysia* (Vol. II, pp. 66–78).
- Kanhai, C., Ganesh, L., & Muhwandavaka, R. (2014). An investigation of the extent of adoption of enterprise risk management (ERM) by banks in Zimbabwe. *International Journal of Business and Commerce*, 3(7), 19–33.
- Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard*. Boston: Havard Business School Press.
- Kaplan, R. S., & Norton, D. P. (2005). The balanced scorecard: Measures that drive performance. *Harvard Business Review*, 83.
- Keegan, P., Eiler, G. R., & Jones, C. R. (1989). Are your performance measures obsolete? *Management Accounting Quarterly*, 45–50.
- Kehinde, A. O., & Soyebbo, A. Y. (2012). Management information system as a catalyst to organisational performance in the 21 st century: A study of selected banks in Nigeria. *American Journal of Business and Management*, 1(1), 12–17.
- Kelley, K., & Preacher, K. J. (2012). On effect size. *Psychological Methods*, 17(2), 137–152.
- Kelman, H. C. (1958). Compliance, identification, and internalization three processes of attitude change. *Journal of Conflict Resolution*, 2(1), 51–60.
- Kerstin, D., Simone, O., & Nicole, Z. (2014). Challenges in implementating enterprise risk management. *ACRN Journal of Finance and Risk Perspectives*, 3(3), 1–14.
- Kimbrough, R. L., & Componation, P. J. (2009). The relationship between organizational culture and enterprise risk management. *Engineering Management Journal*, 21(2), 18–26.
- Kirsch, P., Hine, A., & Maybury, T. (2015). A model for the implementation of industry-wide knowledge sharing to improve risk management practice. *Safety Science*, 80, 66–76.
- Kleffner, A. E., Lee, R. B., & McGannon, B. (2003a). The effect of corporate governance overnance on the use ofenterprise risk management: EVidence from

- Canada. *Risk Management*, 6, 53–73.
- Kleffner, A. E., Lee, R. B., & McGannon, B. (2003b). The effect of corporate governance on the use of enterprise risk management: Evidence from Canada. *Risk Management and Insurance Review*, 6(1), 53–73.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. *Journal of Chemical Information and Modeling* (3rd ed., Vol. 53). New York: The Guilford Press.
- Kloman, F. (1992). Rethinking risk management. *The Geneva Papers on Risk and Insurance-Issues and Practice*, 299–313.
- Koenig, D. R. (2008). The human reaction to risk and opportunity. In D. L. Olson & D. Wu (Eds.), *New frontiers in enterprise risk management* (pp. 7–21). Heidelberg Germany: Springer.
- Kornkaew, A. (2012). *Management information system implementation challenges , success key issues , effects and consequences : A Case Study of Fenix System*. Jonkoping International Business School.
- Kothari, C. R. (2004). *Research methodology, methods and techniques (Second Revised Edition)*.
- KPMG. (2011). *Risk management: A driver of enterprise value in emerging environment*. Retrieved from <https://erm.ncsu.edu/library/article/improve-challenges-survey>
- KPMG. (2013). *Expectations of risk Management outpacing capabilities: It's time for action*. Retrieved from <https://www.kpmg.com>
- Kraus, V., & Lehner, O. M. (2012). The nexus of enterprise risk management and value creation: A systematic literature. *ACRN Journal of Finance and Risk Perspectives*, 1(1), 91–163.
- Kreiner, R., & Kinicki, A. (2008). *Organizational behavior*. (8th, Ed.). New York: McGraw-Hill Irwin.
- Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 38, 607–610.
- Krosnick, J. A., & Fabrigar, L. R. (1997). Designing rating scales for effective measurement in surveys. In L. E. Lyberg, P. Biemer, M. Collins, E. D. De Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey Measurement and Process Quality* (pp. 141–164). John Wiley & Sons.

- Kumar, R. (2011). *Research methodology: A step by step guide for beginners* (3rd ed.). New Delhi: Sage Publications Inc.
- Kuye, O. L., Ogundele, O. J. K., & Otike-Obaro, A. (2013). Government bailout of financially distressed banks in Nigeria: A justifiable strategy? *International Journal of Business and Social Sciences*, 4(8), 174–180.
- Kwaku, J., & Mawutor, M. (2014). The failure of Lehman Brothers: Causes, preventive measures and recommendations. *Research Journal of Finance and Accounting*, 5(4), 85–91.
- Kwanbo, M. L., & Abdul-qadir, A. B. (2013). Dispersed equity holding and financial performance of banks in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(1), 238–247.
- Laguna, M., Wiechete, M., & Talik, W. (2012). The Competencies of Managers and Their Business Success. *Central European Business Review*, 1(3), 7–13.
- Lai, F. (2012). A review of enterprise risk management practices among Malaysian public listed companies. *International Journal of Social, Business, Psychological, Human Science and Engineering*, 6(8), 300–306.
- Lai, F.-W. (2014). Examining the dimensions of enterprise risk management implementation framework, its challenges and benefits: A study on Malaysian public listed companies. *Journal of Economics, Business and Management*, 2(2), 81–86.
- Lai, F., & Azizan, N. A. (2012). Critical review of literature on enterprise risk management and the cost of capital: The value creation perspective. *African Journal of Business Management*, 6(9), 3126–3133.
- Lai, F. W., & Samad, F. A. (2011). Enterprise risk management framework and the empirical determinants of its implementation. *International Conference on Business and Economics Research*, 1, 340–344.
- Laisasikorn, K., & Rompho, N. (2014). A study of the relationship between a successful enterprise risk management system, a performance measurement system and the financial performance of Thai listed companies. *Journal of Applied Business and Economics*, 16(2), 81–92.
- Lalonde, C., & Boiral, O. (2012). Managing risks through ISO 31000: A critical analysis. *Risk Management*, 14(4), 272–300.
- Lam, J. (2000). Enterprise-wide risk management and the role of the chief risk

- officer. *White Paper, ERisk. Com.*
- Lam, J. (2007). *Enterprise risk management at Asian banks: From challenges to strategies.*
- Lamser, I., & Helland, E. (2000). How the chief risk officer is taking centre stage. *Balance Sheet*, 8(6), 26–28.
- Laudon, K. C., & Laudon, J. P. (2012). *Management information system: Managing the digital firm.* Boston, USA: Prentice Hall.
- Leitch, M. (2010). ISO 31000 : 2009 — The new international standard on risk management. *Risk Analysis*, 30(6), 887–892.
- Levine, R. (2004). Risk management systems: Understanding the need. *Information Systems Management*, 21(2), 31–37.
- Levine, R. (2010). An autopsy of the US financial system: accident, suicide, or negligent homicide. *Journal of Financial Economic Policy*, 2(3), 196–213.
- Levy, C., Lamarre, E., & Twining, J. (2010). *Taking control of organizational risk culture (Report from McKinsey & Company).* Retrieved from <https://www.mckinsey.com>
- Li, Q., Wu, Y., Ojiako, U., Marshall, A., & Chipulu, M. (2014). Enterprise risk management and firm value within China's insurance industry. *Acta Commercii*, 14(1), 1–10.
- Liao, K., Ma, Z., Lee, J.-Y. J., & Ke, K. (2011). Achieving mass customization through trust-driven information sharing: a supplier's perspective. *Management Research Review*, 34(5), 541–552.
- Liebenberg, A. P., & Hoyt, R. E. (2003). The determinants of enterprise risk management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), 37–52.
- Lim, E. N. K., & Mccann, B. T. (2013). The influence of relative values of outside directors options on firm strategic risk from a multi-agent perspectives. *Strategic Management Journal*, 34, 1568–1590.
- Lin, C.-H., Peng, C.-H., & Kao, D. T. (2008). The innovativeness effect of market orientation and learning orientation on business performance. *International Journal of Manpower*, 29, 752–772.
- Lin, Y. C., & Chen, Y. M. (2007). Does innovation lead to performance? An empirical study of SMEs in Taiwan. *Management Research News*, 30(2), 115–

- Lin, Y., Wen, M. M., & Yu, J. (2012). Enterprise risk management: Strategic antecedents, risk integration, and performance. *North American Actuarial Journal*, 16(1), 1–28.
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86(1), 114–121.
- Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error in Journal of Extension Research in Brief articles. *Journal of Extension*, 40, 1–5.
- Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. (2008). The impact of transformational CEOs on the performance of small- to medium-sized firms: Does organizational context matter? *Journal of Applied Psychology*, 93(4), 923–934.
- Liu, X., Ruan, D., & Xu, Y. (2005). A study of enterprise human resource competence appraisalment. *Journal of Enterprise Information Management*, 18(3), 289–315.
- Long, C. S., & Ismail, W. K. W. (2011). An analysis of the relationship between HR professionals' competencies and firms' performance in Malaysia. *The International Journal of Human Resource Management*, 22(5), 1054–1068.
- Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, 57(2), 123–146.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(2), 135–172.
- Lundqvist, S. a. (2014). An exploratory study of enterprise risk management: Pillars of ERM. *Journal of Accounting, Auditing & Finance*, 29(3), 393–429.
- Mahmoud, N., & Ahmed, E. M. (2014). Factors affecting risk management practices and financial performance of Iraqi private banks. *Middle-East Journal of Scientific Research*, 22(7), 971–977.
- Malik, S. A., & Holt, B. (2013). Factors that affect the adoption of Enterprise Risk

- Management (ERM). *OR Insight*, 26(4), 253–269.
- Manab, N. A. (2009). *Enterprise wide risk management (EWRM) implementation, compliance and value creation among public listed companies (PLCs) in Malaysia. Faculty of Business Management. Universiti Teknologi Mara, Malaysia.*
- Manab, N. A., & Ghazali, Z. (2013). Does Enterprise Risk Management Create Value. *Journal of Advanced Management Science Vol, 1*(4), 358–362.
- Manab, N. A., & Kassim, I. (2012). Moderating effect of leadership on a success factors of enterprise-wide risk management practices. In *3rd International conference on Business and economics* (pp. 1727–1741).
- Manab, N. A., Kassim, I., & Hussin, M. R. (2010). Enterprise-wide risk management (EWRM) practices: between corporate governance compliance and value. *International Review of Business Research Papers*, 6(2), 239–252.
- Manab, N. A., Othman, S. N., & Kassim, I. (2012). Enterprise-wide risk management best practices: The critical success factors. *International Journal of Sustainable Development*, 4(3), 1–10.
- Markowitz, H. (1952). Portfolio selection. *The Journal Of Finance*, 7(1), 77–91.
- Martens, B., & Teuteberg, F. (2011). Risk and compliance management for cloud computing services : Designing a reference model. In *Proceedings of the Seventeenth Americas Conference on Information Systems, Detroit, Michigan 4th-7th, August.*
- Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results* (1st ed., Vol. 1). San Francisco: Jossey Bass.
- Mayer, C. (2001). Investment and growth: The role of corporate governance. Economic Growth and Government Policy. *HM Treasury Book*, 73–77.
- Mbizi, R., Hove, L., Thondhlana, A., & Kakava, N. (2013). Innovation in SMEs : A review of its role to organisational performance and SMEs operations sustainability. *Interdisciplinary Journal of Contemporary Research in Business*, 4(11), 370–389.
- Mcging, S., & Brown, A. (2013). Board leadership in a complex world- optimising value from risk and opportunity. In *Actuaries Institute Summit* (Vol. 61, pp. 0–33).

- McKinnon, J. ., Harrison, G. ., Chow, C. ., & Wu, A. (2003). Organizational Culture (OC): Association with commitment, job satisfaction, propensity to remain, and information sharing in Taiwan. *International Journal of Business Studies*, 11(1), 25–44.
- McLeod, R., & Scheel, G. P. (2004). *Management information system*. New Jersey: Pearson Education.
- McNish, R., Schlosser, A., Selandari, F., Stegemann, U., & Vorholt, J. (2013). *Getting to ERM: A road map for banks and other financial institutions*. McKinsey & Company.
- McShane, M. K., Cox, L. A., & Butler, R. J. (2010). Regulatory competition and forbearance: Evidence from the life insurance industry. *Journal of Banking & Finance*, 34(3), 522–532.
- McShane, M. K., Nair, A., & Rustambekov, E. (2011). Does enterprise risk management increase firm value? *Journal of Accounting, Auditing & Finance*, 26(4), 641–658.
- Meggison, L. C., Mosley, D. M., & Pietri, P. J. (1989). *Management: concepts and applications* (3rd ed.). New York: Harper & Row Publishers.
- Mehran, H. (1995). Executive compensation structure, ownership and firm performance. *Journal of Financial Economics*, 38(2), 163–184.
- Meier, R. L. (2000). Integrating enterprise wide risk management concepts into industrial technology curricula. *Journal of Industrial Technology*, 16(4), 1–15.
- Mentzas, G., Apostolou, D., & Young, R. (2003). *Knowledge asset management: beyond the process-centred and product-centred approaches*. London: Springer.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.
- Meulbroek, L. (2002). The promise and challenges of integrated risk management. *Risk Management and Insurance Review*, 5(1), 55–66.
- Mikes, A., & Kaplan, R. S. (2013). Towards a contingency theory of Enterprise Risk Management. *Harvard Business School*, 43.
- Mikes, A., & Kaplan, R. S. (2014). *Towards a contingency theory of enterprise risk management*. Harvard Business School Working Paper.
- Miller, K. D. (1992). A framework for integrated risk management in international

- business. *Journal of International Business Studies*, 23(2), 311–331.
- Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension*, 21(5), 45–50.
- Minnesota Department of Transportation. (2013). *Enterprise risk management framework and guidance*.
- Moeller, R. R. (2007). *COSO enterprise risk management: Understanding the new integrated ERM framework*. Hoboken, NJ: John Wiley & Sons, Inc.
- Moeller, R. R. (2011). *COSO enterprise risk management: Establishing effective governance, risk and compliance processes*.
- Mohammad, S. J. (2014). Strategic cost-cutting in information technology : Toward a framework for enhancing the business value of IT. *Iranian Journal of Management Studies (IJMS)*, 7(1), 21–39.
- Monda, B., Giorgino, M., Psrvlpx, Q., Monda, B., & Giorgino, M. (2013). *An ERM maturity model. Enterprise Risk Management Symposium*. Chicago, IL, IL: Management, Economics and Industrial Engineering Department.
- Moorhead, R., & Vaughan, S. (2012). *Legal risk: Definition, management and ethics*. Retrieved from <http://www.ucl.ac.uk/laws/law-ethics>
- Morsing, M., & Oswald, D. (2009). Sustainable leadership: management control systems and organizational culture in Novo Nordisk A/S. *Corporate Governance*, 9(1), 83–99.
- Muller, S., & Supatgiat, C. (2007). A quantitative optimization model for dynamic risk-based compliance management. *IBM Journal of Research and Development*, 51(3.4), 295–307.
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36, 15–23.
- Murphy, K. R., Myers, B., & Wolach, A. (2014). *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests* (4th ed.). New York: Routledge.
- NAICOM. (2010). *National Insurance Commission: Corporate strategic plan*. Retrieved from <http://naicom.gov.ng/>
- NAICOM. (2012). *National insurance commission guideline for developing a risk framework for insurers and reinsurers in Nigeria*. Abuja, Nigeria.
- National Archives. (2008). *Managing information risk: A guide for accounting*

officers, board members and senior information risk owners. crown.

- National Association of Corporate Directors (NACD). (2009). *Report of the NACD blue ribbon commission on risk governance: Balancing risk and reward*. Retrieved from <https://www.nacdonline.org>
- National Bureau of Statistics. (2013). *2012 and estimates for 2013 Gross Domestic Product for Nigeria*. Retrieved from <http://www.nigerianstat.gov.ng/>
- Ngo, H.-Y., & Loi, R. (2008). Human resource flexibility, organizational culture and firm performance: an investigation of multinational firms in Hong Kong. *The International Journal of Human Resource Management*, 19(9), 1654–1666.
- Nickmanesh, S., Andira, H., Musram, M., Akbari, A., Zohoori, M., Musram, H. A. M., & Akbari, A. (2013). Enterprise risk management and performance in Malaysia. *Interdisciplinary Journal of Contemporary Research in Business*, 5(1), 1–38.
- Nicolas, V. (2012). *Financial reform after the crisis : An early assessment*.
- Niskanen, T. (2015). Leadership relationships and occupational safety and health processes in the finnish chemical industry. In *Integrated Occupational Safety and Health Management* (pp. 185–220). Springer International Publishing.
- Nocco, B. W., & Stulz, R. M. (2006). Enterprise risk management: Theory and practice. *Journal of Applied Corporate Finance*, 18(4), 8–20.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba, and leadership: a unified model of dynamic knowledge creation. *Long Range Planning*, 33(1), 6–34.
- Nor, F. M., Shariff, F. M., & Ibrahim, I. (2010). The Effects of Concentrated Ownership on The Performance of The Firm : Do External Shareholdings and Board Structure Matter ?, 30, 93–102.
- Norman, G. R. (1985). *Assessing Clinical Competence: Knowledge sharing*. New York: Springer.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Nweze, C. (2015). Fixing skills gap in banking. *The Nation*.
- Obalola, D. M., Akpan, T. I., & Olufemi, A. A. (2014). The relationship between enterprise risk management (ERM) and organizational performance : Evidence from Nigerian insurance industry. *Research Journal of Financial and Accounting*, 5(14), 152–161.

- Oghojafora, A. E. B., Olayemia, O. O., Okonjia, S. P., & Okolieb, J. U. (2010). Poor corporate governance and its consequences on the Nigerian banking sector. *Serbian Journal of Managenet*, 5(2), 243–250.
- Okafor, C. (2008). Shared values and organizational performance of Nigerian companies : An empirical analysis. *Asian Journal Scientific Research*, 1(3), 265–273.
- Okafor, F. C. (2012). Addressing the problem of non-response and response Bias. *Journal of Applied Statistics*, 1(1), 91–97.
- Okereke-onyiuke, N. (2010). *The Nigerian Stock Exchange: A review of market performance in 2009 and the outlook for 2010*.
- Oladapo, A., & Richard, O. (2012). The implications of global financial crisis on the Nigerian capital market performance : An empirical investigation (2000-2008). *European Journal of Humanities and Social Sciences*, 16(1), 1–18.
- Olamide, O., Uwalomwa, U., & Ranti, U. O. (2015). The effect of risk management on bank's financial performance in Nigeria. *Journal of Accounting and Auditing: Research & Practice*, 2015(1), 1–7.
- Oldfield, G. S., & Santomero, A. M. (1997). The place of risk management in financial institutions. *Sloan Management Review*, 39(1), 33–46.
- Olusegun, A. A., Ganiyu, S. O., & Oluseyi, A. A. (2013). The impact of financial development on economic growth. *American Journal of Business and Management*, 2(4), 347–356.
- Onour, I. a. (2009). *The global financial crisis and equity markets in middle east oil exporting countries*. Retrieved from <http://www.docudesk.com>
- Onwuegbuzie, A. J., & Collins, K. M. T. (2007). A Typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281–316.
- Organization for Economic Cooperation and Development [OECD]. (1999). *Reducing the risk of policy failure: Challenges for regulatory compliance*.
- Organization for Economic Cooperation and Development [OECD]. (2009). *The corporate governance lessons from the financial crisis: Feburary report*.
- Otway, H. J., & Keil, T. (1982). Reflections on risk perceptions and policy. *Risk Analysis*, 2, 69–82.
- Oyejide, T. A., & Soyibo, A. (2001). Corporate governance in Nigeria. In

- Conference on Corporate Governance, Avvra, Ghana* (pp. 29–30). Accra, Ghana.
- Ozcelik, G., & Ferman, M. (2006). Competency approach to human resources management: Outcomes and contributions in a Turkish cultural context. *Human Resource Development Review*, 5(1), 72–91.
- Ozsahin, M., Zehir, C., & Acar, a. Z. (2011). Linking leadership style to firm performance: the mediating effect of the learning orientation. *Procedia - Social and Behavioral Sciences*, 24(1986), 1546–1559.
- Paape, L., & Spekle, R. F. (2012). The Adoption and design of enterprise risk management practices: An empirical study. *European Accounting Review*, 21(3), 533–564.
- Pagach, D., & Warr, R. (2007). *An empirical investigation of the characteristics of firms adopting enterprise risk management* (No. 27695–7229). North Carolina.
- Pagach, D., & Warr, R. (2010). *The Effects of enterprise risk management on firm Performance* (Vol. 9). Retrieved from <http://ssrn.com/abstract=1155218>
- Pagach, D., & Warr, R. (2011). The characteristics of firms that hire chief risk officers. *Journal of Risk and Insurance*, 78(1), 185–211.
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Australia: Allen & Unwin.
- Papalexandris, A., Ioannou, G., Prastacos, G., & Soderquish, K. E. (2005). An integrated methodology for putting the balanced scorecard into action. *European Management Journal*, 22(2), 214–227.
- Peasnell, K. V, Pope, P. F., & Young, S. (2003). Managerial equity ownership and the demand for outside directors. *European Financial Management*, 9(2), 231–250.
- PENCOM. (2015). *Regulation on investment of pension fund assets*. Abuja Nigeria. Retrieved from http://pencom.gov.ng/download/adverts/DRAFT_AMENDED
- Penrose, E. T. (1959). *The theory of the growth of the firm*. New York: Wiley.
- Perez-Lopez, S., & Alegre, J. (2012). Information technology competency, knowledge processes and firm performance. *Industrial Management & Data Systems*, 112(4), 644–662.
- Pergola, T. M., Joseph, G. W., & Jenzarli, A. (2009). Effects of corporate governance and board equity ownership on earnings quality. *Academy of*

Accounting and Financial Studies Journal, 13(4), 87–114.

- Plowman, D. A., Solansky, S., Beck, T. E., Baker, L., Kulkarni, M., & Travis, D. V. (2007). The role of leadership in emergent, self-organization. *Leadership Quarterly*, 18(4), 341–356.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903.
- Podsakoff, P., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Pooser, D. M. (2012). *An empirical examination of the interrelations of risks and the firm's relation with enterprise risk management*. Ann Arbor: The Florida State University.
- Pooser, D. M., & McCullough, K. A. (2012). *ERM determinants, use and effects on the firm*. St. John's University.
- Power, M. (2009). The risk management of nothing. *Accounting, Organizations and Society*, 34(6–7), 849–855.
- Power, M., Ashby, S., & Polermo, T. (2013). *Risk culture in financial organisations (A research report)*. London. Retrieved from <http://www.lse.ac.uk/CARR>
- Pratt, J. ., & Zeckhauser, R. J. (1985). *Principals and agents: the structure of business*. Boston.
- PricewaterCoopers. (2014). *Breaking the rules: Achieving breakthrough innovation in financial services*. New York. Retrieved from www.pwc.com/ng
- PricewaterhouseCoopers. (2004). *Managing risk: An assessment of CEO perspectives*. New York.
- PricewaterhouseCoopers. (2008). *Does ERM matter? Enterprise risk management in the insurance industry: A global study*. New York. Retrieved from www.pwc.com/gx/en/insurance/pdf/erm_survey.pdf
- PriceWaterhouseCoopers. (2013). *Financial focus: Risk and regulations*. New York. Retrieved from www.pwc.com/ng/en/assets/pdf/financial-focus-december-2013.pdf
- Proshare. (2008). Pension Assets Hit N1.098tr. Retrieved from <http://www.proshareng.com/news/8331>
- Protiviti. (2006). *Guide to enterprise risk management: Frequently asked questions*.

Retrieved from www.proviti.com

- Protiviti Inc. (2014). *Establishing and nurturing an effective risk culture: Enabling the chief risk officer's success*. Retrieved from <http://www.proviti.com/en-US/Documents/White-Papers/Risk-Solutions/CRO-Series4-Establishing-and-Nurturing-an-Effective-Risk-Culture-Protiviti.pdf>
- Puni, A., Ofei, S. B., & Okoe, A. (2014). The effect of leadership styles on firm performance in Ghana. *International Journal of Marketing Studies*, 6(1), 177–186.
- Purdy, G. (2010). ISO 31000 : 2009 setting a new standard for risk management. *Risk Analysis*, 30(6), 881–886.
- Queensland. (2011). *A Guide to Risk Management, The State of Queensland (Queensland Treasury) July*.
- Quinn, J. B. (2000). Outsourcing innovation: the new engine of growth. *Management Review*, 41, 13–28.
- Quon, T. K., Zeghal, D., & Maingot, M. (2012). Enterprise Risk Management and Firm Performance. *Procedia - Social and Behavioral Sciences*, 62, 263–267.
- Ram, J., & Corkindale, D. (2014). How “critical” are the critical success factors (CSFs)? Examining the role of CSF for ERP. *Business Process Management Journal*, 20(1), 151–174.
- Ramayah, T., Yeap, J. A. L., & Ignatius, J. (2013). An empirical inquiry on knowledge sharing among academicians in higher learning institutions. *Minerva*, 51(2), 131–154.
- Raminta-Pucetaite, N. (2014). The effect of leader-member exchange on organizational innovativeness: Findings from a Lithuanian public sector organization. *Journal of International Scientific Publications*, 8, 159–171.
- Ranong, Rp. N., & Phuenngam, W. (2009). *Critical success factors for effective risk management procedures in financial industries*. Umeå University.
- Ravichandran, T., Lertwongsatien, C., & Lertwongsatien, C. (2005). Effect of information systems resources and capabilities on firm performance: A resource-based perspective. *Journal of Management Information System*, 21(4), 237–276.
- Rehman, A., Baloch, Q. B., Afeef, M., & Saleem, M. (2015). Relationship between information sharing and risk management practices with financial performance:

- Evidence from Pakistani banking sector. *Journal of Managerial Sciences*, 9(2), 138–146.
- Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, 26(4), 332–344.
- Rejda, G. E. (2005). Risk management and insurance. Boston: Addison Wesley.
- Rejda, G. E., & McNamara, M. J. (2014). *Principles of risk management and insurance: Twelfth edition*. New York: Pearson Education Limited.
- Ren, H., Chandrasekar, K., & Li, B. (2012). Moderating effects of board and managerial incentive on the relationship between R & D investment and firm performance- Evidence from listed manufacturing firms in China. *The Journal of International Management Studies*, 7(1), 41–55.
- Rettab, B., Brik, A. Ben, & Mellahi, K. (2009). A study of management perceptions of the impact of corporate social responsibility on organisational performance in emerging economies: The case of Dubai. *Journal of Business Ethics*, 89, 371–390.
- Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A tale of three perspectives: Examining post hoc statistical techniques for detection and corrections of common method variance. *Organizational Methods*, 12(4), 762–200.
- Rigdon, E. E., Schumacker, R. E., & Wothke, W. (1998). A comparative review of interaction and nonlinear modeling. In R. E. Schumacker & A. G. Marcoulides (Eds.), *Interaction and nonlinear effects in structural equation modeling* (pp. 1–16). Mahwah, NJ: Lawrence Erlbaum Associates Publisher.
- Riivari, E., Anna-Maija, Kujala, J., & Heiskanen, E. (2011). The relationship between organisational innovativeness and the ethical culture of organisations in the public sector. In *EURAM (European of Management) Conference*.
- Riley, R. A., Pearson, T. A., & Trompeter, G. (2003). The value relevance of non-financial performance variables and accounting information: The case of the airline industry. *Journal of Accounting and Public Policy*, 22(3), 231–254.
- Ringle, C. M., Wande, S., & Becker, J.-M. (2014). Smartpls 3.0. Hamburg: SmartPLS.
- Ringle, C., Wende, S., & Will, A. (2005). SmartPLS 2.0 (Beta). Hamburg.

- Risk and Insurance Management Society. (2007). *RIMS risk manager core competency model*. Retrieved from <https://www.rims.org>
- Ritala, P., Olander, H., Michailova, S., & Husted, K. (2014). Knowledge sharing, knowledge leaking and relative innovation performance: An empirical study. *Technovation*, 35, 22–31.
- Roach, R. D. (2007). The board of directors ' role in compliance and ethics. *Journal of Health Care Compliance*, (December), 49–53.
- Robbins, S. P. (2003). *Organizational behavior*. Upper Saddle River, NJ: Prentice Hall.
- Robert, M. M., & Krishna, D. (2007). *A comprehensive approach to enterprise risk information management. TERADATA: Raising Intelligence*. Retrieved from <http://www.teradata.com/resources/white-papers>
- Rochart, J. . (1979). Chief executives define their own data needs. *Harvard Business Review*, 57(2), 81–93.
- Rockart, J. F. (1978). *A new approach to defining the chief executive's information needs* (No. 1008–78.).
- Rodriguez, E., & Edwards, J. (2010). People, technology, processes and risk knowledge sharing. *Electronic Journal of Knowledge Management*, 8(1), 139–150.
- Rodriguez, E., & Edwards, J. S. (2008). Before and after modelling: Risk knowledge management is required. *The Society of Actuaries*.
- Rodriguez, E., & Edwards, J. S. (2009a). Applying knowledge management to enterprise risk management: Is there any value in using KM for ERM? *Journal of Risk Management in Financial Institutions*, 2(4), 427–437.
- Rodriguez, E., & Edwards, J. S. (2009b). Knowledge management and enterprise risk management implementation in financial services. In *Enterprise Risk Management* (pp. 1–17). Retrieved from www.ermsymposium.org/2009/pdf/
- Rose, R. C., Kumar, N., Abdullah, H., & Ling, G. Y. (2008). Organizational culture as a root of performance improvement: Research and recommendations. *Contemporary Management Research*, 4(1), 43–56.
- Rosen, D., & Zenios, S. A. (2001). *Enterprise-wide asset and liability management: Issues, institutions and models*. Nicosia, Cyprus.
- Roslan, A., & Dahan, H. M. (2013). Mediating effect of enterprise risk management

- practices on risk culture and organizational performance. In *Proceeding of the World Conference on Integration of Knowledge* (pp. 10–15).
- Ross, S. A., Westerfield, R. W., & Jaffe, J. (2002). *Corporate finance (6th ed.)*. New York: McGraw-Hill/Irwin.
- Rostami, A., Sommerville, J., Wong, L. I., & Lee, C. (2015). Risk management implementation in small and medium enterprises in the UK construction industry. *Engineering, Construction and Architectural Management*, 22(1), 91–107.
- Ruan, W., & Tian, G. (2011). Managerial ownership, capital structure and firm value: Evidence from China's civilian-run firms. *Australasian Accounting Business and Finance Journal*, 5(3), 73–92.
- Rubera, G., & Kirca, A. H. (2012). Firm innovativeness and its performance outcomes: A meta-analytic review and theoretical integration. *Journal of Marketing*, 76(May), 130–147.
- Ryan, G., Emmerling, R. J., & Spencer, L. M. (2009). Distinguishing high-performing European executives: The role of emotional, social and cognitive competencies. *Journal of Management Development*, 28(9), 859–875.
- Sabato, G. (2009). Financial crisis : Where did risk management Fails? Retrieved from <http://ssrn.com/abstract=1460762>
- Saeidi, P., Sofian, S., Zaleha, S., & Abdul, B. (2014). A proposed model of the relationship between enterprise risk management and firm performance. *International Journal of Information Processing and Management*, 5(2), 70–80.
- Sahin, I. (2006). Detailed review of Roger's diffusion of innovations theory and educational technology-related studies based on Rogers' theory. *The Turkish Online Journal of Educational Technology*, 5(2), 14–23.
- Salkind, N. J. (1997). *Exploring research* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Sanda, A., Sackey, J., & Falholm, Y. (2011). Managerial competence and non-performance of small firms in a developing economy. *Interdisciplinary Journal of Contemporary Business Studies*, 2(3), 6–24.
- Sanusi, L. S. (2010a). *Global financial meltdown and the reforms in the nigerian banking sector*. Retrieved from <https://www.cbn.gov.ng/OUT>
- Sanusi, L. S. (2010b). *The Nigerian banking industry: What went wrong and the way*

forward. Abuja Nigeria: CBN.

- Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair, J. F. (2014). Partial Least Squares Structural Equation Modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, 5(1), 105–115.
- Sattler, H., Völckner, F., Riediger, C., & Ringle, C. M. (2010). The impact of brand extension success drivers on brand extension price premiums. *International Journal of Research in Marketing*, 27(4), 319–328.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). India: Pearson Education.
- Schein, E. H. (2004). *Organizational Culture and Leadership*, 2nd Edition. San Francisco: Jossey-Bass.
- Schmit, J. T., & Roth, K. (1990). Cost effectiveness of risk management practices. *Journal of Risk and Insurance*, 455–470.
- Schroeter, K. (2008). *Competence literature review. Competency & Credentialing Institute*. Retrieved from www.cc-institute.org/docs/default-document-library
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580–607.
- Seamer, M., Choi, B. B., & Lee, D. (2009). *Determinants of the Rigour of Enterprise Risk Management Strategies : Evidence from Australia*.
- SEC. (2011). *Code of corporate governance for public companies in Nigeria*.
- SEC. (2012). *The Nigerian capital market: Submission by Securities and Exchange Commission*.
- Sekaran, U. (2003). *Research methods for business: A skill building approach. PhD Proposal* (4th ed., Vol. 1). New York: John Wiley & Sons Ltd.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). UK: John Wiley & Sons, Inc.
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill building approach* (5th ed.). India: Wiley.
- Sekerci, N. (2013). Does enterprise risk management create value for firms?: Evidence from Nordic countries. In *7th Nordic Econometric Meeting 2013 in Bergen* (pp. 1–43).
- Sharma, P. N., & Kim, K. H. (2013). A comparison of PLS and ML bootstrapping

- techniques in SEM: A Monte Carlo study. In M. Harald, T. Kristin, T. Valeriya, K. Achim, P. Erik, & A. Herve (Eds.), *New perspectives in partial least squares and related methods* (Vol. 56, pp. 201–208). New York: Springer-Verlag.
- Shattell, M. (2004). Risk: A concept analysis. In *Nursing forum* (Vol. 39, pp. 11–17). Wiley Online Library.
- Shecterle, R. (2010). Toyota supply chain lacked risk management oversight. *Industry Week*.
- Shimpi, P. (2005). ERM from compliance to value. *Financial Executive*, 21(6), 52–55.
- Simkins, B. J., & Smithson, C. (2005). Does risk management add value? A survey of the evidence. *Journal of Applied Corporate Finance*, 17(3), 8–17.
- Simona-Iulia, C., & Simona-Iulia, C. (2014). *Comparative study between traditional and enterprise risk management: A theoretical approach. Annals of the University of Oradea, Economic Science Series* (Vol. 23). Annals of the University of Oradea, Economic Science Series.
- Society of Actuaries. (2010). *A new approach for managing operational risk*.
- Soegomo, B. R., Habsyi, T. Al, & Arif, I. (2014). The influence of company strategy towards enterprise risk management , organizational culture , supply chain management and company performance. *Global Advanced Research Journal of Educational Research and Review*, 3(2), 28–34.
- Sorensen, J. B. (2002). The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly*, 47(1), 70–91.
- Soyemi, K. A., Ogunleye, J. O., & Ashogbon, F. O. (2014). Risk management practices and financial performance : evidence from the Nigerian deposit money banks (DMBs). *The Business and Management Review*, 4(4), 345–354.
- Spender, J.-C., & Grant, R. M. (1996). Knowledge and the firm: Overview. *Strategic Management Journal*, 17(S2), 5–9.
- Ssekakubo, J., Ndiwalana, G., & Lwanga, F. (2014). Managerial competency and the financial performance of savings, credit and cooperative societies in Uganda. *International Research Journal of Arts and Social Science*, 3(3), 66–74.
- Stahl, J. (2007). The influential leader. *Fall*, 49–54.
- Steinberg, R. M. (2011). *Governance , Risk Management , and Compliance: It can't happen to us-avoiding corporate disaster while driving success*. New Jersey:

John Wiley & Sons, Inc.

- Stone, M. (1974). Cross validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society*, 36(2), 111–147.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications Inc.
- Stulz, R. M. (1996). Rethinking risk management. *Journal of Applied Corporate Finance*, 9(3), 8–25.
- Subramanian, A. (1996). Innovativeness: Redefining the concept. *Journal of Engineering and Technology Management*, 13, 223–243.
- Subramanian, A., & Nilakanta, S. (1996). Organizational innovativeness: Exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance. *Omega*, 24, 631–647.
- Suliyanto, S., & Rahab, R. (2012). The role of market orientation and learning orientation in improving innovativeness and performance of small and medium enterprises. *Asian Social Science*, 8(1), 134–145.
- Sweeting, P. (2011). *Financial enterprise risk management*. (C. Daykin, Ed.). New York: Cambridge University Press.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). New York: Pearson Education.
- Tahir, I. M., & Razali, A. R. (2011). The relationship between enterprise risk management (ERM) and firm value: Evidence from Malaysian public listed companies. *International Journal of Economics and Management Sciences*, 1(2), 32–41.
- Tajeddini, K. (2016). Analyzing the influence of learning orientation and innovativeness on performance of public organizations. *Journal of Management Development*, 35(2), 134–153.
- Tajudin, M. M., Musa, O., & Musa, N. C. (2012). Effects of organizational culture, market orientation, and innovativeness toward new product performance amongst Malaysian SMEs. *International Journal of Innovation and Business Strategy*, 1(December), 24–48.
- Tan, J. (2001). Innovation and risk-taking in a transitional economy: A comparative study of Chinese managers and entrepreneurs. *Journal of Business Venturing*, 16, 359–376.

- Tariq, Y. Bin, & Abbas, Z. (2013). Compliance and multidimensional firm performance: Evaluating the efficacy of rule-based code of corporate governance. *Economic Modelling*, 35(February), 565–575.
- Teece, D. (2000). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long Rang Planning*, 3, 35–54.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(March), 509–533.
- Tharenou, P., Donohue, R., & Cooper, B. (2007). *Management research methods* (1st ed.). New York: Cambridge University Press.
- The Economist Intelligence Unit. (2014). *Risk-informed innovation: Harnessing risk management in the service of innovation*. Retrieved from www.gbm.hsbc.com/~media/gbm/reports/insights/risk-informed-innovation.pdf
- The Joint Forum. (2005). Compliance and the compliance function in banks. *Access*, (April).
- The World Bank. (2011). *Report on the observance of standards and codes(ROSC)*.
- The World Bank. (2013). *World development report 2014: Managing risk for development*.
- Thornton, G. (2009). *Enterprise risk management: Creating value in a volatile economy. Addressing the concerns of the Corporate Governance Community Summer*.
- Togok, S. H., Ruhana, C. I., & Zainuddin, S. (2014). Review of enterprise risk management (ERM) Literature. In *International Conference on Technology and Business Management, March 24-26 University of Malaya*. (pp. 1–13).
- Togok, S. H., Ruhana, C., & Zainuddin, S. (2013). Operationalising Enterprise Risk Management (ERM) Effectiveness. *Journal of Accounting Perspectives*, 7(1).
- Torbira, L. L., & Ngerebo-A, T. A. (2012). The impact of insurance risk management on fixed capital formation in Nigeria. *International Journal of Development and Economic Sustainability*, 1(4), 1–13.
- Uadiale, O. M. (2010). The impact of board structure on corporate financial performance in Nigeria. *International Journal of Business and Management*, 5(10), 155–166.
- University of Oxford. (2014). *Unprecedented technological risks*.

- Uwuigbe, O. R., & Fakile, A. S. (2012). The effects of board size on financial performance of banks: A study of listed banks in Nigeria. *International Journal of Economics and Finance*, 4(2), 260–267.
- Uzkurt, C., Kumar, R., Kimzan, S. H., & Eminoglu, G. (2013). Role of innovation in the relationship between culture and firm performance: A study of the banking sector in Turkey. *Emerald Insight*, 16(1), 92–117.
- Vakola, M., Soderquist, K. E., & Prastacos, G. P. (2007). Competency management in support of organisational change. *International Journal of Manpower*, 28(3/4), 260–275.
- Verma, S. P., & Medves, J. (2006). Core Competencies for Health Care Professionals: What Medicine, Nursing, occupational therapy, and physiotherapy Share. *Journal of Allied Health*, 35(2), 109–116.
- Vintila, G., & Gherghina, C. S. (2014). Insider ownership and the value of the Bucharest stock exchange listed companies: Convergence-of-interest or entrenchment effect? *International Journal of Economics and Financial Issues*, 4(1), 183–195.
- Vo, D., & Phan, T. (2013). Corporate governance and firm performance: Empirical evidence from Vietnam. *Journal of Economic Development*, (April 2013), 62–78.
- Wang, C. L., Ahmed, P. K., Catherine, W. L., & Pervaiz, K. A. (2004). The development and validation of the organisational innovativeness construct using confirmatory factor analysis. *European Journal of Innovation Management*, 7(4), 303–313.
- Wang, Z., Wang, N., & Liang, H. (2014). Knowledge sharing, intellectual capital and firm performance. *Management Decision*, 52(2), 230–258.
- Weerawardena, J., & O’Cass, A. (2004). Exploring the characteristics of the market-driven firms and antecedents to sustained competitive advantage. *Industrial Marketing Management*, 33(5), 419–28.
- Westphal, J. D., & Stern, I. (2006). The other pathway to the boardroom: Interpersonal influence behavior as a substitute for elite credentials and majority Status in obtaining board appointments. *Administrative Science Quarterly*, 51(2), 169–204.
- Westphal, J. D., & Zajac, E. J. (1995). Who Shall Govern ? Demographic Similarity

- , and New Director Selection. *Administrative Science Quarterly*, 40(1), 60–83.
- Williams, A., & Heins, M. H. (1995). *Risk Management and Insurance*. New York.: McGraw-Hill.
- Wilson, I. (2006). Regulatory and institutional challenges of corporate governance in Nigeria post banking consolidation. *Nigerian Economic Summit Group*, 12(2), 1–10.
- Wolf, R. (2008). The Evolution of Enterprise Risk Management. *The Actuary*, (July), 19–22.
- Woon, L. F., Azizan, N. A., & Samad, M. F. A. (2011). A strategic framework for value enhancing enterprise risk management. *Journal of Global Business and Economics*, 2(1), 23–47.
- Wright, P., Kroll, M., Krug, J. A., & Pettus, M. (2007). Influences of top management team incentives on firm risk taking. *Strategic Management Journal*, 28(1), 81–89.
- Yam, R. C. M., & Chan, C. (2015). Knowledge sharing, commitment and opportunism in new product development. *International Journal of Operations & Production Management*, 35(7), 1056–1074.
- Yaraghi, N., & Langhe, R. G. (2011). Critical success factors for risk management systems. *Journal of Risk Research*, 14(5), 551–581.
- Yazid, A. S., Hussin, M. R., & Daud, W. N. W. (2011). An examination of enterprise risk management (ERM) practices among the government-linked companies (GLCs) in Malaysia. *International Business Research*, 4(4), 94–103.
- Yeasmin, S., & Rahman, K. F. (2012). Triangulation research method as the tool of social science Research. *BUP Journal*, 1(1), 154–163.
- Young, S., & Perez, E. (2002). Finance chief of WorldCom got high marks on Wall Street. *Wall Street Journal*, P. B1.
- Yow, S., & Sherris, M. (2008). Enterprise risk management, insurer value maximisation, and market frictions. *ASTIN Bulletin*, 38(1), 293–339.
- Zaim, H., Yasar, M. F., & Unal, O. F. (2013). Analyzing the effects of individual competencies on performance: A field study in services industries in Turkey. *Journal of Global Strategic Management*, 2(7), 67–67.
- Zhao, X., Hwang, B.-G., & Low, S. P. (2013). Critical success factors for enterprise risk management in Chinese construction companies. *Construction*

Management and Economics, 31(12), 1199–1214.

Zhao, X., Hwang, B.-G., & Low, S. P. (2014). Enterprise risk management implementation in construction firms: An organizational change perspective. *Management Decision*, 52(5), 814–833.

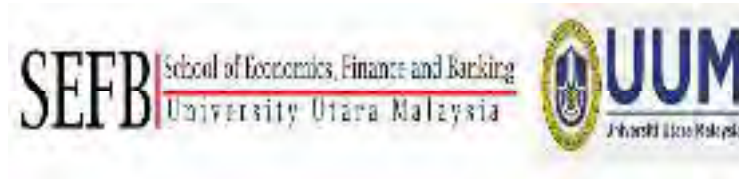
Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods* (8th ed.). Canada: South-Western, Cengage Learning.

Zumitzavan, V., & Udchachone, S. (2014). The impact of different styles of leadership and levels of organisational innovation on organisational performance: A case of hospitality industry in Thailand. *WSEAS Transactions on Business and Economics*, 11, 272–282.

Zurich. (2011). Risk management in a time of global uncertainty. *Harvard Business Review*, 1–29.



Appendix A: Questionnaire



Dear Sir/Madam,

A SURVEY ON ENTERPRISE RISK MANAGEMENT (ERM) PRACTICES AND THE PERFORMANCE OF FINANCIAL INSTITUTIONS IN NIGERIA

The objective of this research is to get an overall picture of risk management practices and its effect on the performance of financial institutions in Nigeria. Specifically, the outcome of this study will enable organisations to enhance their expertise, resources, and to manage risks efficiently. The questionnaire will take between 15 and 20 minutes to complete.

May I assure you that the information you would provide will be treated with utmost confidentiality. No aspects of the firm's name will appear in any report. Kindly be as candid as possible in responding to the questions. It is my hope that with your cooperation, the data collected will provide vital information concerning ERM practices and will aid further research effort in the area.

While awaiting your earliest response, please accept the assurances of my highest regards.

Yours sincerely,

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PART 1: Background Questions on Risk Management Status

S/No	Please answer question one by ticking the appropriate boxes.	Yes	No
1.	Do you consider risk management a priority for your firm?		
2.	Our risk management initiative is driven by our desire to (Please select all that apply)		
i.	Improve risk assessment process.		
ii.	Improve measurement and quantification of financial risks.		
iii.	Improve the measurement and quantification of operational risks.		
iv.	Improve the measurement and quantification of strategic risks		
v.	Improve the internal risk reporting processes		
vi.	Improve the risks management decision-making		
vii.	Incorporate risks considerations into incentive compensation		
viii.	Improve interaction and efficiency among departments/units.		

	Please if question 3 is "NO", skip to question 6	Yes	No
3.	Does your organisation implement ERM framework?		

4.	When does your organisation start operating under this framework?	
i.	1-5 Years	
ii.	6-10 years	
iii.	11 years and above	

5.	Which of the following best describes the status of your organization's ERM activities?	
i.	Fully implemented across organisation	
ii.	Partially implemented business segments	
iii.	At initial stage of preparation	

6.	What are the potential challenges affecting the success of ERM activities in your firm?	
i.	Improving risk management efficiency	
ii.	Uncertain regulatory environment	
iii.	Managing Change	
iv.	Attracting and retaining talent	
v.	Data & technology management	
vi.	Fear of compliance failure	

7	What are the motivations for your organisations to adopt ERM? (Please select all that apply)	
i.	Regulatory compliance	
ii.	Mandate from board of directors	
iii.	Technology advancement	
iv.	Improve corporate governance	
v.	Complex global environment	
vi.	Competitive pressure	
vii.	Stakeholder pressure	
viii.	Surge for best business practices	

8	Which areas of risk represent the greatest potential threats and becomes a priority to your organisation. Please rate each type of risk between 1=top area of focus and 4=Not an area of focus				
	Types of Risks	1	2	3	4
i.	Financial risk				
ii.	Operational risk				
iii.	Strategic risk				
iv.	Reputational risk				
v.	Legal risk				

Part 2: ERM Framework

Please indicate in your opinion to what extent do you agree with the following statement concerning ERM program in your organisation. Use the scales provided below to indicate your level of agreement or disagreement with each statement by circling the appropriate boxes.

Level of agreement or disagreement with each statement by circling the appropriate boxes.

Strongly disagree		Disagree		Neutral		Agree		Strongly agree		
1		2		3		4		5		
S/N	Statement					Level of Agreement				
	In my organisation									
RMF1	there is common understanding about ERM objectives					1	2	3	4	5
RMF2	there is a common terminology and set of standard of risk management					1	2	3	4	5
RMF3	information about risk pass across the entire firm					1	2	3	4	5
RMF4	there is a rigorous assessment process of risk (identification, analysis & evaluation)					1	2	3	4	5
RMF5	Risk is integrated across all functions of business units					1	2	3	4	5
RMF6	the ERM objective reduces risk of non-compliance					1	2	3	4	5
RMF7	there is a strategy for tracking the cost of compliance					1	2	3	4	5
RMF8	key risk indicators are integrated to keep risk on track					1	2	3	4	5

RMF9	ERM is integrated with the key performance indicators (KPI)	1	2	3	4	5
------	---	---	---	---	---	---

Part 3: Board Equity Ownership

Please indicate in your opinion to what extent do you agree with the following statement concerning whether the "Equity shareholding of the board of directors" motivates them in fulfilling their monitoring role toward ensuring good risk management practices. Please circle the appropriate answer

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

S/N	Statement	Level of Agreement				
	In my organisation					
BE01	all executive directors own shares of this firm after excluding stock options held	1	2	3	4	5
BE02	all non-executive directors own shares of this company after excluding stock options held	1	2	3	4	5
BE03	directors equity shareholding motivates them to monitor efficiently and ensure that risk management decisions are implemented	1	2	3	4	5
BE04	decrease in the shares held by board of directors reduces their monitoring capability	1	2	3	4	5
BE05	increase in the number of shares held by the board of directors increase their ability to monitor	1	2	3	4	5
BE06	non-executive directors are paid in cash and some form of equity shares compensation	1	2	3	4	5
BE07	all executive directors are paid entirely in some form of equity shares compensation	1	2	3	4	5

Part 4: ERM Success Factors

Please indicate in your opinion to what extent do you agree with the following statement concerning factors that influence ERM effectiveness in your organisation. Use the scales provided below to indicate your level of agreement or disagreement with each statement by circling the appropriate boxes.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

A. Compliance

S/N	Statement	Level of Agreement				
	In my organisation					
COP1	our internal culture has become much more focus on compliance	1	2	3	4	5
COP2	top management emphasized more on governance	1	2	3	4	5
COP3	procedures for compliances are developed by management	1	2	3	4	5
COP4	compliance decisions are implemented to avoid sanctions	1	2	3	4	5
COP5	the ERM practices support strong corporate governance	1	2	3	4	5
COP6	risk management programme is upgraded to comply with standards of listing requirements	1	2	3	4	5
COP7	risk management programme is upgraded to comply with Basel capital accord	1	2	3	4	5

COP8	risk management programme is upgraded to comply with risk standards and policies	1	2	3	4	5
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B. Risk Management Information System

S/N	Statement	Level of Agreement				
	The information system in my organisation					
RMI1	provides support for the risk modelling process	1	2	3	4	5
RMI2	provides access to experience in terms of risk analysis	1	2	3	4	5
RMI3	provides adequate data management support	1	2	3	4	5
RMI4	provides capacity to improve work performance	1	2	3	4	5

C. Risk Culture

S/N	Statement	Level of Agreement				
	In my organisation					
RMC1	organisational structure improves risk reporting	1	2	3	4	5
RMC2	organisational structure improves risk communication process	1	2	3	4	5
RMC3	employee reward structures are aligned to risk-adjusted measures	1	2	3	4	5
RMC4	sufficient resources are committed to risk management programme	1	2	3	4	5
RMC5	senior management & the board of directors provide clear information on the risk appetite	1	2	3	4	5
RMC6	ERM is integrated into management's decision-making processes	1	2	3	4	5
RMC7	CRO has a role to play in strategic business decisions	1	2	3	4	5
RMC8	risk management training covers both the policy, methodology, and practices	1	2	3	4	5

D. Risk knowledge Sharing

S/N	Statement In my organisation	Level of Agreement				
RKS1	employees are willing to share risk knowledge	1	2	3	4	5
RKS2	there is proper record keeping concerning risk events	1	2	3	4	5
RKS3	there is good access to work experience	1	2	3	4	5
RKS4	there is an appropriate environment to discuss results inter-departmentally	1	2	3	4	5
RKS5	there is an appropriate environment for solving and sharing of risk solutions	1	2	3	4	5

E. Staff Competence

S/N	Statement In my organisation	Level of Agreement				
SCP1	staff members use analytical skills in dealing with risk management issues	1	2	3	4	5

SCP2	staff members approached their jobs with a high level of commitment	1	2	3	4	5
SCP3	staff members understand their risk management responsibilities	1	2	3	4	5
SCP4	Staff members possess the requisite knowledge and the technical skills for complex financial transactions	1	2	3	4	5
SCP5	organisation's formal performance appraisal gives high rating to staff analytical abilities	1	2	3	4	5

F. Organisational Innovativeness

S/N	Statement My organisation	Level of Agreement				
OIN1	frequently introduces new ideas	1	2	3	4	5
OIN2	use current techniques to manage risk	1	2	3	4	5
OIN3	is creative in dealing with risk management issues	1	2	3	4	5
OIN4	introduces efficient risk management methodologies in all its dealings and operations	1	2	3	4	5
OIN5	integrate risk management with key performance indicators	1	2	3	4	5
OIN6	does not perceive newness as something risky, and resisted	1	2	3	4	5

G. Leadership Role

H.

S/N	Statement My organisation	Level of Agreement				
LF1	the board give priority to risk management issues	1	2	3	4	5
LF2	top management take responsibility for risk management activities	1	2	3	4	5
LF3	our CRO facilitates the deployment of best risk management practices across the entire firm	1	2	3	4	5
LF4	our CRO analyses large volume of data and extracts key information to top management	1	2	3	4	5
LF5	top management provides facilities and infrastructure to support risk management initiative	1	2	3	4	5
LF6	our CRO arrange risk management education and training for all employees	1	2	3	4	5
Part 5: Firm Performance						
The statements below assess both the financial and non-financial performance of firms. Please indicate your opinion to what extent do you think your firm has performed in the last three years based on the rating scale provided. Kindly circle the appropriate answer.						

Significantly Decrease	Decrease	Neutral	Increase	Significantly Increase
1	2	3	4	5

S/N	Statement on financial performance	Level of Agreement				
FP1	the yearly profit and sales growth	1	2	3	4	5
FP2	the Return on Assets (ROA) yearly growth	1	2	3	4	5
FP3	the Return on Equity (ROE) yearly growth	1	2	3	4	5
FP4	the overall sale's growth	1	2	3	4	5
FP5	the attainment of yearly financial performance targets	1	2	3	4	5
FP6	the stability of earnings	1	2	3	4	5
S/N	Statement on non-financial performance	Level of Agreement				
FP7	the firm's capacity to meet strategic goals	1	2	3	4	5
FP8	the quality of strategic and operational decisions	1	2	3	4	5
FP9	the quality of services provided to customers	1	2	3	4	5
FP10	the level of customer satisfaction	1	2	3	4	5
FP11	relative to other competitors, our customer base	1	2	3	4	5
FP12	the firm's management accountability	1	2	3	4	5

Part 6 : Profile : Participants details (Please read and tick as appropriate)

Years of work-experience	
Less than 1 year	
1-5 years	
6 -10 years	
11 years and above	
Highest Educational Qualification	
Doctorate Degree	
Master's Degree	
First Degree	
Others, please specify	
Your position in the organisation	
Chief Risk Officer	
Chief Financial Officer	
Top Level Manager	
Head of Risk Management Department	
Others, Please specify.....	

Kindly indicate your willingness if you could avail us the opportunity to have a face-to-face interview regarding risk management practices in your organisation Yes []
No [].

Thank you once again.

Appendix B: Missing Value Analysis

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
WorkExp	163	2.94	.795	0	.0	0	0
Qualification	163	2.33	.719	0	.0	0	0
Position	163	2.86	1.116	0	.0	0	0
Riskmgtpriority	163	1.02	.235	0	.0	.	.
Driversofriskmgt	163	1.53	.772	0	.0	0	0
ERMFrameworkimplentn	163	1.01	.110	0	.0	.	.
ERMcomencement	163	1.88	.709	0	.0	0	0
ERMstatus	163	1.57	.745	0	.0	0	0
Motivationtoadoptterm	163	1.80	.862	0	.0	0	0
ERMchallenges	160	1.88	.927	3	1.8	0	0
FinRisk	163	3.85	.500	0	.0	.	.
OperationRisk	161	3.87	.476	2	1.2	.	.
StratRisk	159	3.69	.656	4	2.5	.	.
ReputnlRisk	162	3.33	.819	1	.6	7	0
ForeignExchange	159	2.95	.745	4	2.5	.	.
LegalRisk	159	3.06	.748	4	2.5	5	0
PoliticalRisk	161	2.87	.943	2	1.2	0	0
Cybersecurity	162	3.48	.782	1	.6	5	0
ClimateChange	163	2.41	1.153	0	.0	0	0
RMF1	163	4.21	.859	0	.0	7	0

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
RMF2	161	4.06	.764	2	1.2	4	0
RMF3	161	4.13	.759	2	1.2	5	0
RMF4	162	4.09	.783	1	.6	7	0
RMF5	163	4.03	.773	0	.0	7	0
RMF6	163	4.12	.792	0	.0	6	0
RMF7	162	4.01	.764	1	.6	6	0
RMF8	163	4.03	.652	0	.0	.	.
RMF9	161	4.01	.750	2	1.2	.	.
BEO1	163	4.17	.678	0	.0	2	0
BEO2	161	4.11	.680	2	1.2	1	0
BEO3	163	4.06	.739	0	.0	2	0
BEO4	161	3.86	.818	2	1.2	0	0
BEO5	163	4.01	.762	0	.0	6	0
BEO6	163	4.03	.652	0	.0	.	.
BEO7	163	4.00	.745	0	.0	.	.
COP1	163	4.23	.756	0	.0	3	0
COP2	161	4.29	.636	2	1.2	2	0
COP3	162	4.23	.602	1	.6	2	0
COP4	162	4.25	.722	1	.6	3	0
COP5	163	4.31	.707	0	.0	3	0
COP6	161	4.24	.687	2	1.2	2	0
COP7	163	4.11	.745	0	.0	6	0

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
COP8	163	4.26	.760	0	.0	4	0
RMI1	162	4.32	.594	1	.6	0	0
RMI2	163	4.27	.646	0	.0	1	0
RMI3	161	4.29	.704	2	1.2	2	0
RMI4	163	4.28	.713	0	.0	3	0
RMC1	163	4.13	.671	0	.0	4	0
RMC2	162	4.23	.655	1	.6	3	0
RMC3	161	4.30	.699	2	1.2	3	0
RMC4	163	4.25	.721	0	.0	3	0
RMC5	162	4.18	.686	1	.6	2	0
RMC6	161	4.40	.665	2	1.2	0	0
RMC7	163	4.06	.731	0	.0	5	0
RMC8	163	3.93	.659	0	.0	.	.
RKS1	162	3.86	.810	1	.6	0	0
RKS2	163	3.90	.631	0	.0	0	0
RKS3	161	4.07	.717	2	1.2	3	0
RKS4	163	4.06	.739	0	.0	2	0
RKS5	163	3.86	.816	0	.0	0	0
SCP1	163	4.39	.633	0	.0	0	0
SCP2	162	4.33	.600	1	.6	0	0
SCP3	162	4.26	.736	1	.6	3	0
SCP4	162	4.30	.706	1	.6	1	0

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
SCP5	163	4.23	.714	0	.0	4	0
OIN1	163	3.94	.772	0	.0	.	.
OIN2	161	4.03	.754	2	1.2	3	0
OIN3	162	4.06	.832	1	.6	7	0
OIN4	163	4.13	.774	0	.0	5	0
OIN5	162	4.07	.842	1	.6	9	0
OIN6	163	4.08	.875	0	.0	10	0
LF1	162	2.96	.644	1	.6	.	.
LF2	163	3.12	.679	0	.0	4	0
LF3	163	2.92	.720	0	.0	0	0
LF4	163	2.71	.895	0	.0	0	3
LF5	163	2.84	.693	0	.0	0	1
LF6	162	1.86	.792	1	.6	0	7
FFP1	163	4.27	.629	0	.0	2	0
FFP2	162	4.29	.607	1	.6	1	0
FFP3	163	4.20	.590	0	.0	1	0
FFP4	163	4.11	.619	0	.0	.	.
FFP5	163	4.28	.583	0	.0	0	0
FFP6	163	4.29	.655	0	.0	3	0
NFP1	162	3.81	.973	1	.6	0	0
NFP2	163	3.77	.964	0	.0	3	0
NFP3	163	3.91	.834	0	.0	0	0

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
NFP4	163	3.82	.838	0	.0	1	0
NFP5	163	3.85	1.014	0	.0	0	0
NFP6	163	3.79	.935	0	.0	4	0

a. Number of cases outside the range ($Q1 - 1.5 \cdot IQR$, $Q3 + 1.5 \cdot IQR$).

b. Indicates that the inter-quartile range (IQR) is zero.



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Appendix C: Replace Missing Values

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	ERMchallenges_1	3	1	163	163	MEDIAN(ERMchallenges,ALL)
2	OperationRisk_1	2	1	163	163	MEDIAN(Operati nRisk,ALL)
3	StratRisk_1	4	1	163	163	MEDIAN(StratRis k,ALL)
4	ReputnlRisk_1	1	1	163	163	MEDIAN(Reputnl Risk,ALL)
5	ForeignExchange_1	4	1	163	163	MEDIAN(Foreign Exchange,ALL)
6	LegalRisk_1	4	1	163	163	MEDIAN(LegalRis k,ALL)
7	PoliticalRisk_1	2	1	163	163	MEDIAN(Political Risk,ALL)
8	Cybersecurity_1	1	1	163	163	MEDIAN(Cyberse curity,ALL)
9	RMF2_1	2	1	163	163	MEDIAN(RMF2,A LL)
10	RMF3_1	2	1	163	163	MEDIAN(RMF3,A LL)
11	RMF4_1	1	1	163	163	MEDIAN(RMF4,A LL)
12	RMF7_1	1	1	163	163	MEDIAN(RMF7,A LL)
13	RMF9_1	2	1	163	163	MEDIAN(RMF9,A LL)
14	BEO2_1	2	1	163	163	MEDIAN(BEO2,A LL)
15	BEO4_1	2	1	163	163	MEDIAN(BEO4,A LL)
16	COP2_1	2	1	163	163	MEDIAN(COP2,A LL)
17	COP3_1	1	1	163	163	MEDIAN(COP3,A LL)

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
18	COP4_1	1	1	163	163	MEDIAN(COP4,ALL)
19	COP6_1	2	1	163	163	MEDIAN(COP6,ALL)
20	RMI1_1	1	1	163	163	MEDIAN(RMI1,ALL)
21	RMI3_1	2	1	163	163	MEDIAN(RMI3,ALL)
22	RMC2_1	1	1	163	163	MEDIAN(RMC2,ALL)
23	RMC3_1	2	1	163	163	MEDIAN(RMC3,ALL)
24	RMC5_1	1	1	163	163	MEDIAN(RMC5,ALL)
25	RMC6_1	2	1	163	163	MEDIAN(RMC6,ALL)
26	RKS1_1	1	1	163	163	MEDIAN(RKS1,ALL)
27	RKS3_1	2	1	163	163	MEDIAN(RKS3,ALL)
28	SCP2_1	1	1	163	163	MEDIAN(SCP2,ALL)
29	SCP3_1	1	1	163	163	MEDIAN(SCP3,ALL)
30	SCP4_1	1	1	163	163	MEDIAN(SCP4,ALL)
31	OIN2_1	2	1	163	163	MEDIAN(OIN2,ALL)
32	OIN3_1	1	1	163	163	MEDIAN(OIN3,ALL)
33	OIN5_1	1	1	163	163	MEDIAN(OIN5,ALL)
34	LF1_1	1	1	163	163	MEDIAN(LF1,ALL)
35	FFP2_1	1	1	163	163	MEDIAN(FFP2,ALL)

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
36	NFP1_1	1	1	163	163	MEDIAN(NFP1,ALL)



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Appendix D: Common Method Bias

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.705	11.007	11.007	7.705	11.007	11.007
2	5.769	8.241	19.248	5.769	8.241	19.248
3	4.165	5.950	25.198	4.165	5.950	25.198
4	3.799	5.427	30.625	3.799	5.427	30.625
5	3.537	5.053	35.678	3.537	5.053	35.678
6	3.283	4.690	40.367	3.283	4.690	40.367
7	2.864	4.092	44.459	2.864	4.092	44.459
8	2.564	3.662	48.121	2.564	3.662	48.121
9	2.251	3.215	51.336			
10	1.803	2.575	53.912			
11	1.737	2.481	56.392			
12	1.426	2.037	58.430			
13	1.338	1.911	60.341			
14	1.296	1.851	62.192			
15	1.181	1.687	63.879			
16	1.138	1.625	65.504			
17	1.056	1.509	67.014			
18	1.001	1.430	68.444			
19	.925	1.321	69.765			
20	.918	1.312	71.077			
21	.880	1.257	72.334			
22	.877	1.252	73.587			
23	.834	1.191	74.778			
24	.816	1.166	75.944			
25	.789	1.127	77.071			
26	.765	1.093	78.164			
27	.758	1.082	79.246			
28	.720	1.029	80.275			
29	.715	1.022	81.296			
30	.661	.945	82.241			
31	.615	.879	83.121			
32	.612	.874	83.995			
33	.576	.823	84.818			
34	.562	.803	85.620			

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
35	.546	.780	86.401			
36	.545	.778	87.179			
37	.518	.740	87.918			
38	.496	.708	88.626			
39	.475	.679	89.305			
40	.460	.658	89.963			
41	.456	.651	90.614			
42	.411	.587	91.201			
43	.406	.580	91.781			
44	.387	.553	92.334			
45	.373	.533	92.867			
46	.355	.507	93.374			
47	.342	.489	93.863			
48	.325	.464	94.327			
49	.319	.456	94.783			
50	.300	.429	95.212			
51	.288	.411	95.623			
52	.276	.394	96.017			
53	.258	.368	96.385			
54	.245	.350	96.735			
55	.224	.320	97.055			
56	.212	.303	97.359			
57	.199	.284	97.642			
58	.191	.273	97.915			
59	.181	.259	98.174			
60	.167	.239	98.413			
61	.160	.229	98.642			
62	.149	.213	98.856			
63	.143	.204	99.060			
64	.127	.182	99.241			
65	.120	.172	99.413			
66	.109	.155	99.569			
67	.083	.119	99.688			
68	.082	.116	99.804			
69	.075	.107	99.911			
70	.062	.089	100.000			

Appendix E: PLS Measurement Model Output (Criteria)

E1: Overview

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
BEO	0.718242	0.946845		0.934467	0.718242	
COP	0.514458	0.808254		0.691208	0.514458	
FFP	0.515152	0.808868	0.052506	0.686475	0.515152	0.026822
LFS	0.552870	0.780138		0.655566	0.552870	
NFP	0.707703	0.906253	0.969425	0.861615	0.707703	0.685907
OIN	0.607556	0.885142		0.843423	0.607556	
PERF	0.356461	0.752890	0.327486	0.698448	0.356461	0.026974
RKS	0.515739	0.760529		0.552563	0.515738	
RMC	0.525185	0.813315		0.721453	0.525185	
RMF	0.587897	0.894987		0.859466	0.587898	
RMI	0.553399	0.829722		0.752970	0.553399	
SCP	0.508894	0.837468		0.769747	0.508894	

E2: Latent Variable Correlations

	BEO	COP	FFP	LFS	NFP	OIN	PERF	RKS	RMC	RMF	RMI	SCP
BE O	1.000 000											
CO P	0.059 150	1.000 000										
FFP	0.043 461	0.028 297	1.000 000									
LFS	- 0.188 869	0.127 096	0.032 856	1.000 000								
NF P	- 0.328 850	0.147 633	0.055 505	0.252 543	1.000 000							
OI N	0.119 349	- 0.207 634	0.055 134	0.000 224	- 0.117 485	1.0000 00						
PE RF	- 0.312 875	0.149 817	0.229 141	0.251 938	0.984 594	- 0.1050 77	1.0000 00					

RK S	- 0.385 908	- 0.044 783	0.140 567	0.090 264	0.284 851	- 0.0268 31	0.3017 53	1.0000 00				
RM C	- 0.017 045	- 0.052 805	0.068 710	- 0.027 900	0.202 899	0.1132 61	0.2093 80	0.1094 29	1.0000 00			
RM F	- 0.229 580	- 0.017 735	- 0.003 779	0.117 776	0.260 356	- 0.0659 66	0.2532 50	0.0870 94	0.1250 29	1.0000 00		
RM I	- 0.095 011	- 0.156 355	0.001 539	0.055 632	0.264 490	0.1253 65	0.2591 16	0.1212 86	0.2461 97	- 0.0571 33	1.0000 00	
SC P	- 0.046 965	0.009 790	0.136 906	0.041 163	0.266 620	0.1091 37	0.2838 13	0.3121 55	0.3462 08	0.0099 16	0.2091 59	1.0000 00



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E3: Cross Loadings

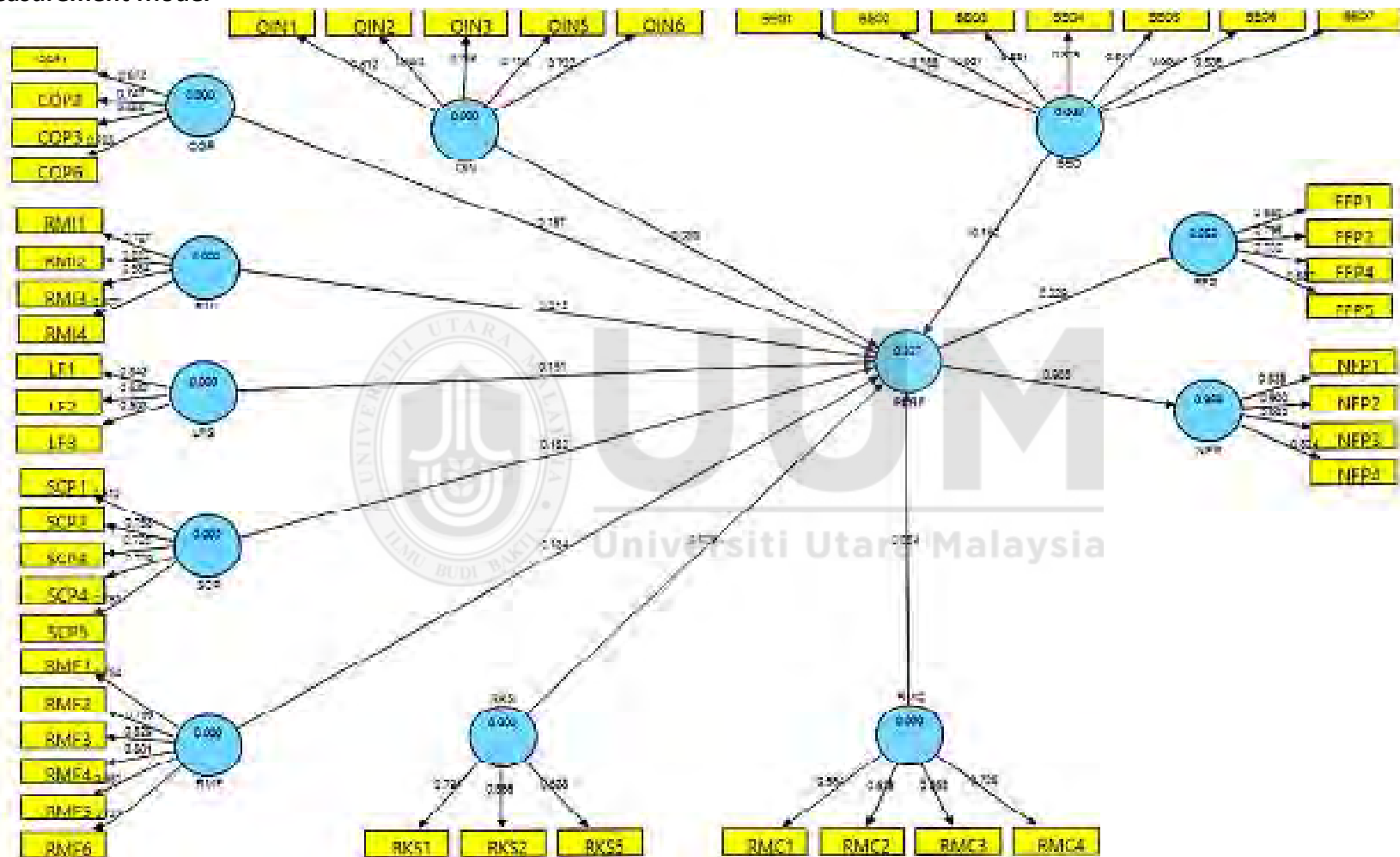
	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
BE01	0.788156	-0.009774	-0.003460	-0.171509	-0.208686	0.106740	-0.373040	-0.031855	-0.236766	-0.057289	-0.062911
BE02	0.887097	0.063198	0.039019	-0.252703	-0.251139	0.089156	-0.362354	0.030429	-0.200091	-0.042873	-0.038666
BE03	0.881392	0.061569	-0.012257	-0.189444	-0.262044	0.113272	-0.307113	0.003203	-0.155875	-0.081535	-0.127673
BE04	0.874778	0.064176	0.048443	-0.188178	-0.331116	0.068958	-0.328941	0.015443	-0.261673	-0.068074	-0.028743
BE05	0.840611	0.086301	0.071931	-0.095732	-0.303962	0.159320	-0.322596	-0.044243	-0.147449	-0.163061	-0.042862
BE06	0.849781	0.048157	0.013097	-0.148821	-0.283559	0.083494	-0.315158	-0.065720	-0.166344	-0.075466	-0.026616
BE07	0.805431	0.019912	0.088124	-0.086884	-0.282313	0.090836	-0.297103	-0.009190	-0.196955	-0.063375	0.040028
COP1	0.011331	0.673045	0.011167	0.111106	0.119014	-0.233916	0.014159	-0.092783	0.040758	-0.085362	0.007747
COP2	-0.014817	0.747307	0.079793	0.101915	0.113694	-0.089919	-0.002919	-0.007214	-0.003828	-0.124226	0.006425
COP3	0.204311	0.656040	-0.045899	0.064657	0.077524	-0.069745	-0.120702	0.008074	-0.064628	-0.094831	0.010657
COP6	0.041165	0.784849	0.002164	0.073534	0.101539	-0.178204	-0.063612	-0.043014	-0.052052	-0.142323	0.004539
FFP1	-0.052328	0.133356	0.679763	0.036101	0.025288	-0.100402	0.037060	-0.034745	-0.010446	-0.059137	0.026671
FFP2	0.080124	-0.041800	0.795990	0.044546	0.060622	0.105339	0.100288	0.084185	0.081138	0.044333	0.150923
FFP4	-0.017308	0.100143	0.701807	-0.012731	0.035109	0.051272	0.130658	0.015534	-0.055946	-0.077815	0.070056
FFP5	0.097933	-0.088315	0.687310	0.021880	0.032431	0.076853	0.135358	0.120464	-0.051088	0.083373	0.129565
LF1	-0.133139	0.119897	0.056764	0.843188	0.220798	-0.035152	-0.002839	-0.019065	0.093176	0.046887	0.078286
LF2	-0.183798	0.092534	-0.001698	0.830303	0.214819	0.036775	0.156813	-0.017131	0.107376	0.065978	-0.010352
LF3	-0.104352	0.059346	-0.000148	0.508174	0.030450	0.010906	0.069034	-0.092220	0.038421	-0.114008	0.003383
NFP1	-0.261376	0.216836	0.117116	0.193458	0.834531	-0.079502	0.212764	0.148534	0.211209	0.312195	0.233362
NFP2	-0.260028	0.165178	0.034576	0.214239	0.899782	-0.097324	0.246810	0.155119	0.196695	0.290965	0.253002

	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
NFP3	-0.311494	0.046842	0.022277	0.201109	0.803401	-0.124487	0.216090	0.211776	0.255456	0.075737	0.244689
NFP4	-0.277874	0.058777	0.010774	0.242181	0.824203	-0.095951	0.283646	0.171416	0.217002	0.198121	0.164264
OIN1	-0.036652	-0.089510	0.018513	0.086129	-0.098856	0.812071	0.066609	-0.038248	-0.090440	0.057774	0.050268
OIN2	0.170429	-0.199221	0.003689	-0.009612	-0.108917	0.853248	-0.049515	0.171214	-0.048329	0.104027	0.185277
OIN3	0.132958	-0.174740	0.148062	0.000451	-0.111318	0.782321	-0.050301	0.131924	-0.037912	0.125797	0.105378
OIN5	0.110026	-0.191589	0.052672	-0.077423	-0.066504	0.718854	-0.021137	-0.006810	-0.006177	0.071648	-0.049570
OIN6	0.099273	-0.187566	-0.011693	-0.060338	-0.043669	0.722158	-0.084153	0.205351	-0.065682	0.160876	0.061634
RKS1	-0.513512	-0.021476	0.044463	0.132373	0.275406	-0.075649	0.793598	0.059808	0.145235	0.034335	0.243036
RKS2	0.028408	-0.026774	0.216950	0.035142	0.119179	-0.059146	0.666419	-0.009329	-0.014213	0.050724	0.253099
RKS5	-0.196731	-0.053343	0.094429	-0.004762	0.181707	0.092034	0.687971	0.179373	0.008692	0.195853	0.185576
RMC1	0.002029	-0.127166	0.066548	-0.052535	0.075939	0.145625	0.040252	0.653538	0.029530	0.098768	0.268712
RMC2	-0.026442	-0.151233	0.034909	0.006427	0.080802	0.100136	0.134190	0.634737	0.048456	0.152013	0.191135
RMC3	0.014887	-0.038781	0.070505	0.008954	0.222240	0.072309	0.013422	0.862947	0.187775	0.223265	0.242778
RMC4	-0.061462	0.083934	0.022351	-0.070052	0.133218	0.061933	0.196788	0.725300	0.007105	0.202512	0.337774
RMF1	-0.152668	0.032293	0.091273	0.168553	0.181763	-0.035731	0.088649	0.017968	0.753982	-0.032667	-0.041798
RMF2	-0.195018	0.005065	0.086444	0.034973	0.205164	-0.132047	0.062064	0.137908	0.799023	-0.051813	-0.087875
RMF3	-0.205627	-0.011613	-0.083822	0.054393	0.228987	-0.039078	0.047175	0.051164	0.828934	-0.105784	0.048885
RMF4	-0.150358	-0.039091	-0.026240	0.111125	0.221209	-0.085153	0.085230	0.036646	0.800997	-0.086729	0.073859
RMF5	-0.169947	-0.059559	-0.024128	0.093647	0.145273	0.027427	-0.016378	0.138627	0.680861	0.037601	0.035025
RMF6	-0.185534	-0.022891	-0.071962	0.090931	0.202263	-0.004524	0.115147	0.218650	0.726745	0.010811	0.028340

	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
RMI1	0.014632	-0.164526	-0.058908	0.059166	0.147812	0.164798	0.066256	0.153171	-0.192855	0.727461	0.172264
RMI2	-0.181401	-0.137128	-0.017454	-0.000474	0.260389	0.047660	0.250076	0.295892	0.081990	0.832128	0.243158
RMI3	0.053614	-0.088939	0.002202	0.015822	0.049081	0.118693	-0.125415	0.069612	-0.129297	0.584002	0.139999
RMI4	-0.035882	-0.088144	0.058233	0.089891	0.218009	0.110564	-0.013754	0.128075	-0.079627	0.806785	0.074936
SCP1	0.052629	0.023093	0.169177	0.066473	0.108933	0.176968	0.204604	0.144550	-0.130452	0.259414	0.611994
SCP2	-0.085790	0.086408	0.049791	0.109947	0.294469	-0.050060	0.244986	0.234226	0.117088	0.068277	0.758034
SCP3	-0.007419	-0.000842	0.097268	-0.062286	0.173284	0.088098	0.240173	0.318536	-0.058536	0.227145	0.724866
SCP4	0.071573	-0.047366	0.119427	0.010537	0.136689	0.252511	0.119977	0.200556	-0.030799	0.104806	0.709109
SCP5	-0.139028	-0.087503	0.110780	-0.022316	0.151895	0.056199	0.287185	0.331673	0.032588	0.166431	0.753028



E4: Measurement Model



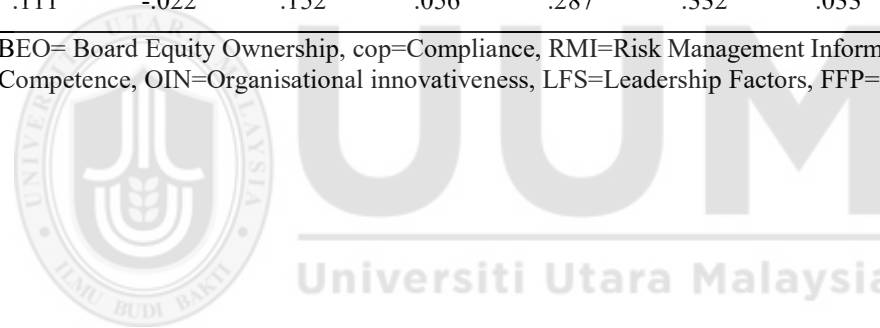
E5: Cross Loadings (Discriminant Validity)

ITEMS	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
BEO1	.788	.010	.003	.172	.209	-.107	.373	.032	.237	.057	.063
BEO2	.887	-.063	-.039	.253	.251	-.089	.362	-.030	.200	.043	.039
BEO3	.881	-.062	.012	.189	.262	-.113	.307	-.003	.156	.082	.128
BEO4	.875	-.064	-.048	.188	.331	-.069	.329	-.015	.262	.068	.029
BEO5	.841	-.086	-.072	.096	.304	-.159	.323	.044	.147	.163	.043
BEO6	.850	-.048	-.013	.149	.284	-.083	.315	.066	.166	.075	.027
BEO7	.805	-.020	-.088	.087	.282	-.091	.297	.009	.197	.063	-.040
COP1	-.011	.673	.011	.111	.119	-.234	.014	-.093	.041	-.085	.008
COP2	.015	.747	.080	.102	.114	-.090	-.003	-.007	-.004	-.124	.006
COP3	-.204	.656	-.046	.065	.078	-.070	-.121	.008	-.065	-.095	.011
COP6	-.041	.785	.002	.074	.102	-.178	-.064	-.043	-.052	-.142	.005
FFP1	.052	.133	.680	.036	.025	-.100	.037	-.035	-.010	-.059	.027
FFP2	-.080	-.042	.796	.045	.061	.105	.100	.084	.081	.044	.151
FFP4	.017	.100	.702	-.013	.035	.051	.131	.016	-.056	-.078	.070
FFP5	-.098	-.088	.687	.022	.032	.077	.135	.120	-.051	.083	.130
LF1	.133	.120	.057	.843	.221	-.035	-.003	-.019	.093	.047	.078
LF2	.184	.093	-.002	.830	.215	.037	.157	-.017	.107	.066	-.010
LF3	.104	.059	.000	.508	.030	.011	.069	-.092	.038	-.114	.003
NFP1	.261	.217	.117	.193	.835	-.080	.213	.149	.211	.312	.233
NFP2	.260	.165	.035	.214	.900	-.097	.247	.155	.197	.291	.253

ITEMS	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
NFP3	.311	.047	.022	.201	.803	-.124	.216	.212	.255	.076	.245
NFP4	.278	.059	.011	.242	.824	-.096	.284	.171	.217	.198	.164
OIN1	.037	-.090	.019	.086	-.099	.812	.067	-.038	-.090	.058	.050
OIN2	-.170	-.199	.004	-.010	-.109	.853	-.050	.171	-.048	.104	.185
OIN3	-.133	-.175	.148	.000	-.111	.782	-.050	.132	-.038	.126	.105
OIN5	-.110	-.192	.053	-.077	-.067	.719	-.021	-.007	-.006	.072	-.050
OIN6	-.099	-.188	-.012	-.060	-.044	.722	-.084	.205	-.066	.161	.062
RKS1	.514	-.021	.044	.132	.275	-.076	.794	.060	.145	.034	.243
RKS2	-.028	-.027	.217	.035	.119	-.059	.666	-.009	-.014	.051	.253
RKS5	.197	-.053	.094	-.005	.182	.092	.688	.179	.009	.196	.186
RMC1	-.002	-.127	.067	-.053	.076	.146	.040	.654	.030	.099	.269
RMC2	.026	-.151	.035	.006	.081	.100	.134	.635	.048	.152	.191
RMC3	-.015	-.039	.071	.009	.222	.072	.013	.863	.188	.223	.243
RMC4	.061	.084	.022	-.070	.133	.062	.197	.725	.007	.203	.338
RMF1	.153	.032	.091	.169	.182	-.036	.089	.018	.754	-.033	-.042
RMF2	.195	.005	.086	.035	.205	-.132	.062	.138	.799	-.052	-.088
RMF3	.206	-.012	-.084	.054	.229	-.039	.047	.051	.829	-.106	.049
RMF4	.150	-.039	-.026	.111	.221	-.085	.085	.037	.801	-.087	.074
RMF5	.170	-.060	-.024	.094	.145	.027	-.016	.139	.681	.038	.035
RMF6	.186	-.023	-.072	.091	.202	-.005	.115	.219	.727	.011	.028
RMI1	-.015	-.165	-.059	.059	.148	.165	.066	.153	-.193	.727	.172

ITEMS	BEO	COP	FFP	LFS	NFP	OIN	RKS	RMC	RMF	RMI	SCP
RMI2	.181	-.137	-.017	.000	.260	.048	.250	.296	.082	.832	.243
RMI3	-.054	-.089	.002	.016	.049	.119	-.125	.070	-.129	.584	.140
RMI4	.036	-.088	.058	.090	.218	.111	-.014	.128	-.080	.807	.075
SCP1	-.053	.023	.169	.066	.109	.177	.205	.145	-.130	.259	.612
SCP2	.086	.086	.050	.110	.294	-.050	.245	.234	.117	.068	.758
SCP3	.007	-.001	.097	-.062	.173	.088	.240	.319	-.059	.227	.725
SCP4	-.072	-.047	.119	.011	.137	.253	.120	.201	-.031	.105	.709
SCP5	.139	-.088	.111	-.022	.152	.056	.287	.332	.033	.166	.753

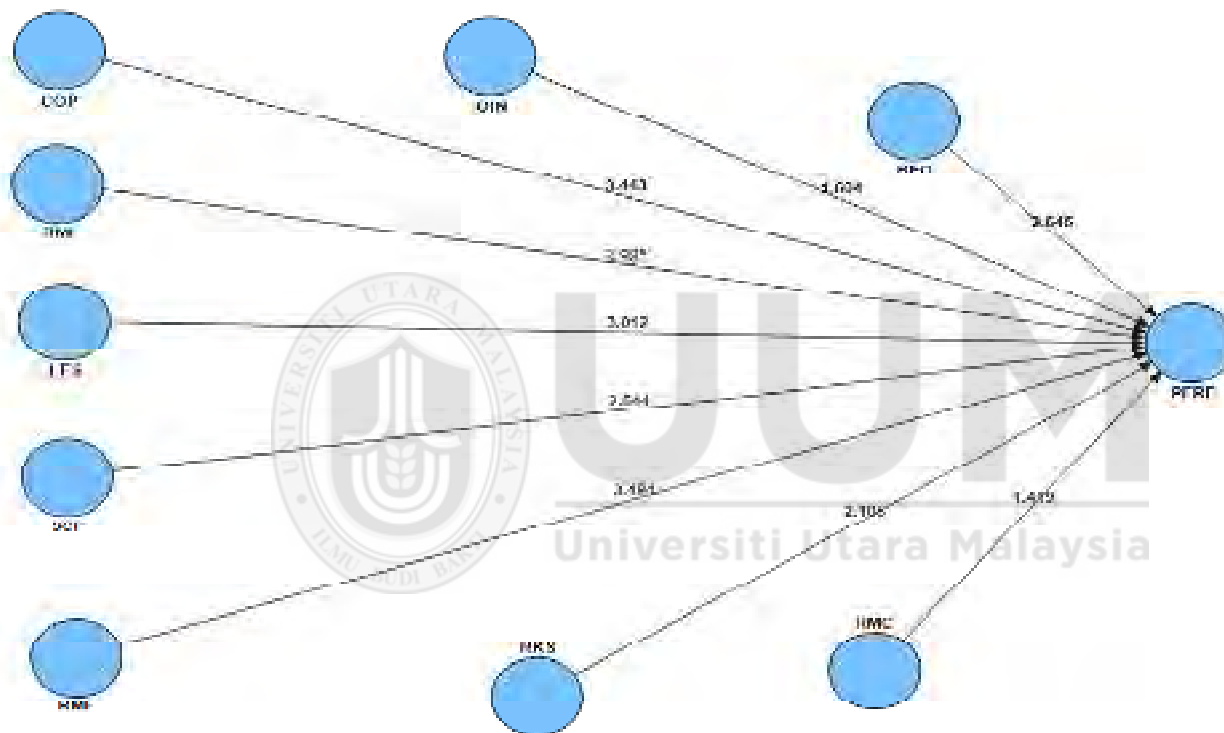
Note: RMF=Risk Management Framework, BEO= Board Equity Ownership, cop=Compliance, RMI=Risk Management Information, RMC=Risk Management Culture, RKS=Risk Knowledge Sharing, SCP=Staff Competence, OIN=Organisational innovativeness, LFS=Leadership Factors, FFP=Financial Firm Performance, NFP= Non-financial Firm Performance.



E6: Path Coefficients (Mean, STDEV, T-Values): Direct Relationship

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
BEO -> PERF	-0.169446	-0.172660	0.064060	0.064060	2.645124
COP -> PERF	0.165988	0.162507	0.048207	0.048207	3.443208
LFS -> PERF	0.150666	0.151287	0.050020	0.050020	3.012105
OIN -> PERF	-0.092638	-0.092423	0.057759	0.057759	1.603876
RKS -> PERF	0.122777	0.116869	0.058330	0.058330	2.104880
RMC -> PERF	0.084032	0.087787	0.059199	0.059199	1.419471
RMF -> PERF	0.185762	0.184009	0.053164	0.053164	3.494130
RMI -> PERF	0.215484	0.213986	0.054078	0.054078	3.984660
SCP -> PERF	0.159782	0.165862	0.062797	0.062797	2.544417

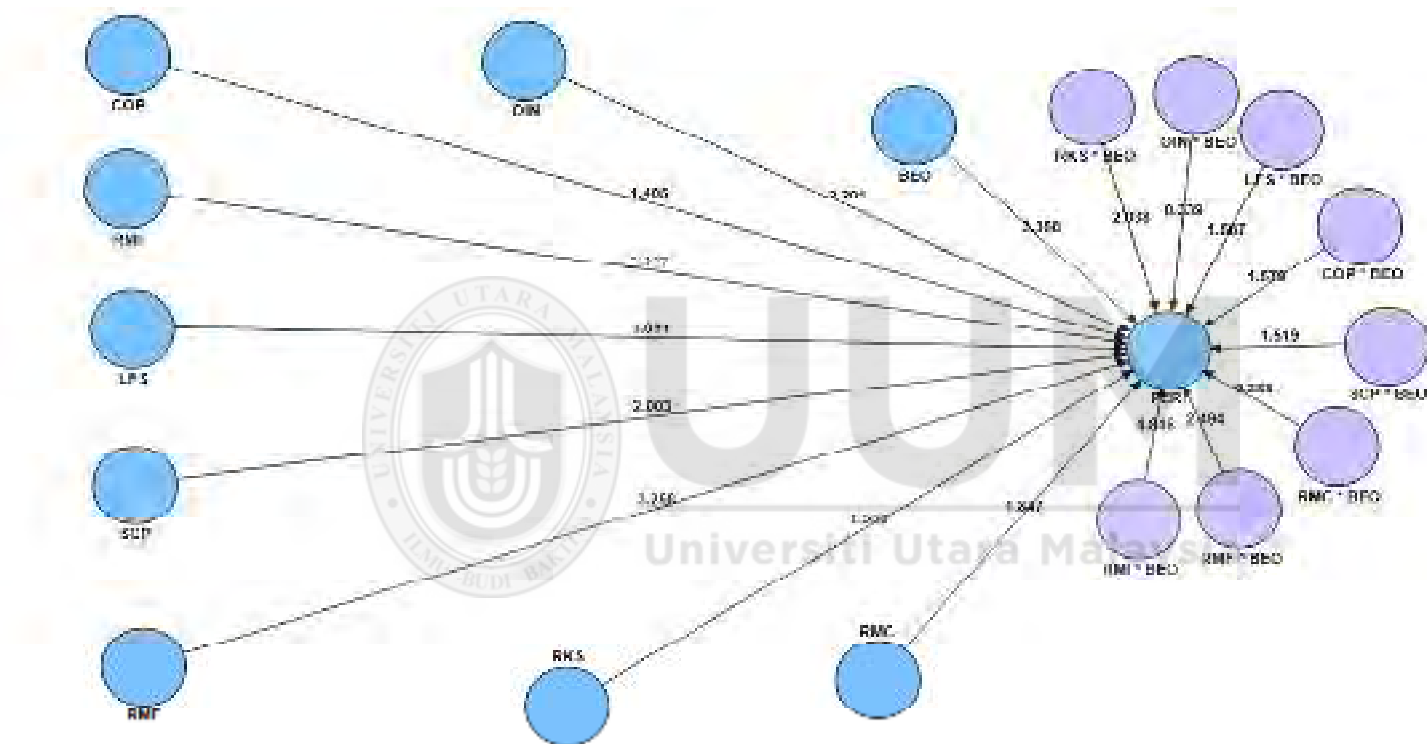
E7: Structural Model Direct



E8: Path Coefficients (Mean, STDEV, T-Values): Moderation Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
BEO -> PERF	-0.191497	-0.195492	0.057034	0.057034	3.357595
COP -> PERF	0.068705	0.069538	0.048913	0.048913	1.404640
COP * BEO -> PERF	0.073522	0.072817	0.046575	0.046575	1.578576
LFS -> PERF	0.168032	0.159508	0.054357	0.054357	3.091236
LFS * BEO -> PERF	-0.096357	-0.090224	0.060713	0.060713	1.587092
OIN -> PERF	-0.124564	-0.120232	0.056597	0.056597	2.200883
OIN * BEO -> PERF	-0.018672	-0.011338	0.055119	0.055119	0.338759
RKS -> PERF	0.085893	0.077741	0.055101	0.055101	1.558812
RKS * BEO -> PERF	0.114286	0.116517	0.056068	0.056068	2.038320
RMC -> PERF	0.107851	0.110176	0.058406	0.058406	1.846589
RMC * BEO -> PERF	-0.023765	-0.023885	0.061254	0.061254	0.387973
RMF -> PERF	0.185591	0.188297	0.056968	0.056968	3.257821
RMF * BEO -> PERF	0.163853	0.171557	0.065688	0.065688	2.494429
RMI -> PERF	0.166398	0.170060	0.053389	0.053389	3.116717
RMI * BEO -> PERF	0.261180	0.250254	0.053900	0.053900	4.845678
SCP -> PERF	0.145337	0.138405	0.072572	0.072572	2.002662
SCP * BEO -> PERF	-0.109889	-0.107237	0.072321	0.072321	1.519474

E9: Structural Model with Interaction



E10: Construct Crossvalidated Redundancy

Total	SSO	SSE	1-SSE/SSO
PERF	1304.000000	1163.348300	0.107862

